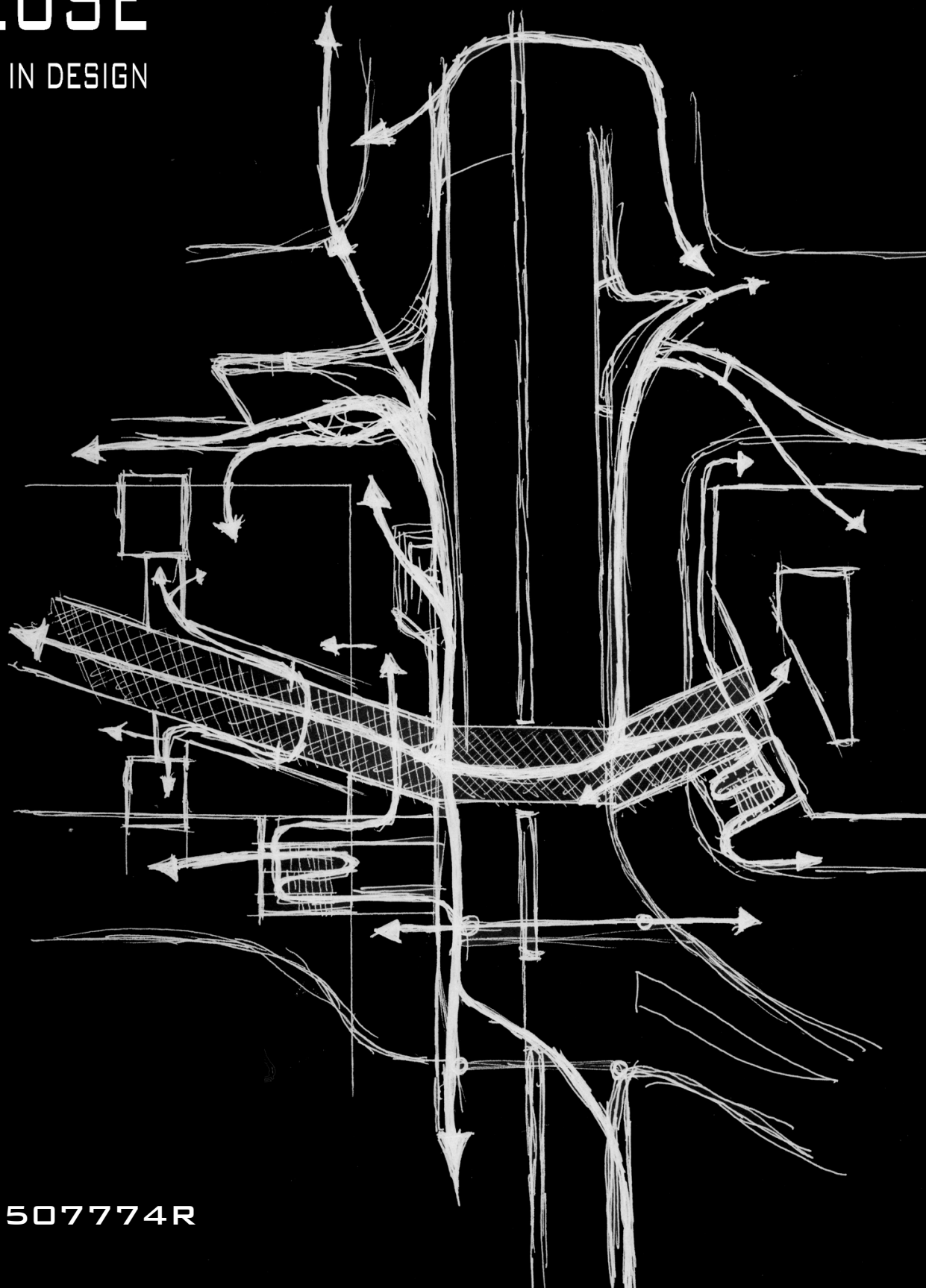


# REFALL

## ADAPTIVE REUSE

USING THE CONCEPT OF SPACE IN DESIGN



MITCHELL McCRAW 0507774R



A full-page background image showing a view of Earth from space, looking down at a vast, cloud-covered landscape. The horizon of the Earth is visible at the top, with a thin blue line of the atmosphere. The land below is a mix of brown and green, with white clouds scattered across the surface.

# RECALL

## ADAPTIVE REUSE USING THE CONCEPTS OF SPACE IN DESIGN

THIS DOCUMENT IS SUBMITTED IN PARTIAL FULFILMENT OF THE DEGREE MASTER OF ARCHITECTURE (PROFESSIONAL)  
AT THE UNIVERSITY OF WITWATERSRAND,  
JOHANNESBURG, GAUTENG SOUTH AFRICA 2011

WITH SPECIAL THANKS TO ARIANE JANSE VAN RENSBURG

### DECLARATION

I, Mitchell McCraw, 0507774R, am a student registered for the course Master of Architecture [Professional] in the year 2011. I hereby declare the following: I am aware that plagiarism (the use of someone else's work without permission and/or without acknowledging the original sources) is wrong. I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of ideas on which my thesis is based.

MITCHELL McCRAW  
12 DECEMBER 2011



## ACKNOWLEDGMENTS

I would like to dedicate this thesis to my Family. Thank you for the support and giving me a chance to achieve my goals and dreams. I would like to thank my friend Evan for tearing me away for my thesis in order to look at it again with a fresh perspective. I would also like to give a big THANK YOU to Bryan Dunstan for giving me the chance to work for him, as he has inspired my thoughts on architecture and has given me many lessons and principles that will be valuable in the years to come. The experience I received is priceless and irreplaceable. Thank you to Daniel, Dwayne, Michael and Kuku for all their help and advice when clarity was needed. Lastly but surely, Jack please stop telling me to go home, home has been the studio for the year and it will be truly missed.



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FIGURE 2







## **ABSTRACT**

Vacant buildings are considered dead/wasted spaces within the city and have lost their social interaction with the environment, becoming places for theft and vandalism. The recycling phenomenon came about to solve the potential issues of vacant buildings, giving them new life through a new function, so that their memory may be passed down to future generations. The thesis Recall explores and expands on the knowledge of adaptive reuse, using the theory of the space concepts, which is a particular category of orientation in space. The theory aided in the development of a design tool for adaptive reuse which should allow for the successful integration of vacant buildings back into the city, exemplified in the redesign of Juta Street. The design tool focuses on the creation of a place structured by intentions, relationships and memory aiding man's need for orientation in space and time. This will acknowledge the structure of our city's palimpsest, becoming a layered, unique object which socially inter acts with the surrounding environment and people.

## 1.1. INTRODUCTION

- The Problem – Vacant Buildings
- The Solution – Adaptive Reuse
- The Equation – Design Tool

## 1.2. VACANT BUILDINGS

- No Purpose

## 1.3. ADAPTIVE REUSE

- New Purpose

## 1.4. THE NEED FOR A METHODOLOGY

- Intergrating Dead Architecure Back Into The Enviroment

## 1.5. WHAT IS SPACE?

- The Universe

## 1.6. SPACE IN ARCHITECTURE

## 1.7. SPACE CONCEPTS

- Pragmatic – Primitive Orientation
- Perceptual Space – Immediate Orientation
- Existential Space – Mans Belonging To The World
- Cognitive space – Thinking About Space
- Logical Space - Space concepts cant be undertood in isolation

## 1.8. EXISTENTIAL SPACE

- The Individual – Memory Through Interacting With Space
- The Concept of Place – Architecture Embodies Memory
- Paths And Places
- Existential Space - The Palimpsest

## 1.9. ADAPTIVE REUSE & THE CONCEPTS OF SPACE IN DESIGN

- Intergrating Dead Architecure Back Into The Enviroment

## 1.10. CONCLUSION

## 1.11. DESIGN CHARETTE



FIGURE 4



# 1.1 INTRODUCTION

## PROBLEM + EQUATION = SOLUTION

Since the beginning of time, man has found suitable areas within the environment to dwell. Man has not only adapted to his surroundings, but has also structured it to satisfy his wishes and dreams by creating meaningful places through built form.

Architectural Spaces accommodate our intentions and are considered the physical counterparts of the greater machine.

Cities bring meaning within our environment and continue to develop and transform as they are never completed.

Parts and fragments are continuously being added, creating the layers of progression that shaped our city over time.

But what will transpire when the image of the environment becomes unstable  
and the architectural spaces created no longer have a purpose?

WE DO DELETE THE LAYERS OF PROGRESSION?

OR

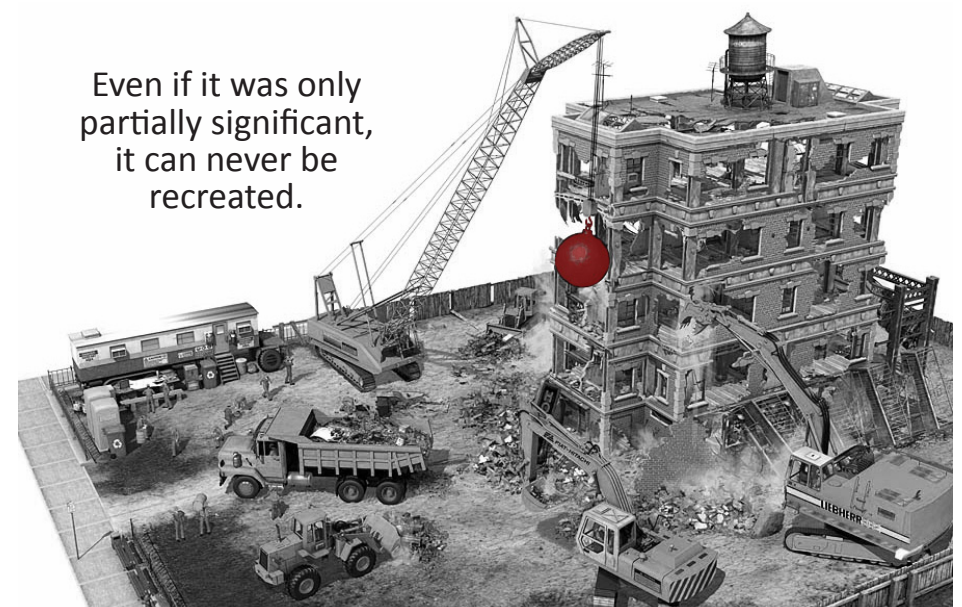
DO WE ADAPT?



The demands of the twenty first century have triggered new aspirations resulting in new functional requirements and building uses. Architects often feel the need to produce new buildings to keep up with the growing demands for more living space, more work space and new functions which were not originally intended for the area. Thus creating and meeting the demands has presented a problem for the future development of our cities due to the consumption of green built sites. We are splintered and frozen between the past and the future and in order for the new buildings to materialise large portions of our existing built fabric in our inner city has to be demolished. Removing the existing structures in our city has always been a debate but it finally comes down to a choice: how do we decide on what gets demolished? Vacant buildings seem to be a logical choice but demolishing a building feels wrong. It feels like a piece of history is being discarded. Even if it was only partially significant, it can never be recreated.

## THE PROBLEM

While I was driving through the city of Johannesburg, South Africa, it seemed to me that some of the older buildings stood desolate and frozen in space like haunted relics of a past time. This got me thinking: what may become of the new buildings in the future? Imagine your architecturally designed building becoming vacant, rundown and depressing, creating a cycle of preconceptions and negativity within its immediate surroundings. Vacant buildings have a history and, when designed and constructed, had a purpose in the city. Most of these buildings have great potential to become extraordinary architectural places but unfortunately have fallen into despair, now dead spaces with prime positions to become something meaningful and encouraging to the surrounding context.



Even if it was only  
partially significant,  
it can never be  
recreated.

## THE SOLUTION

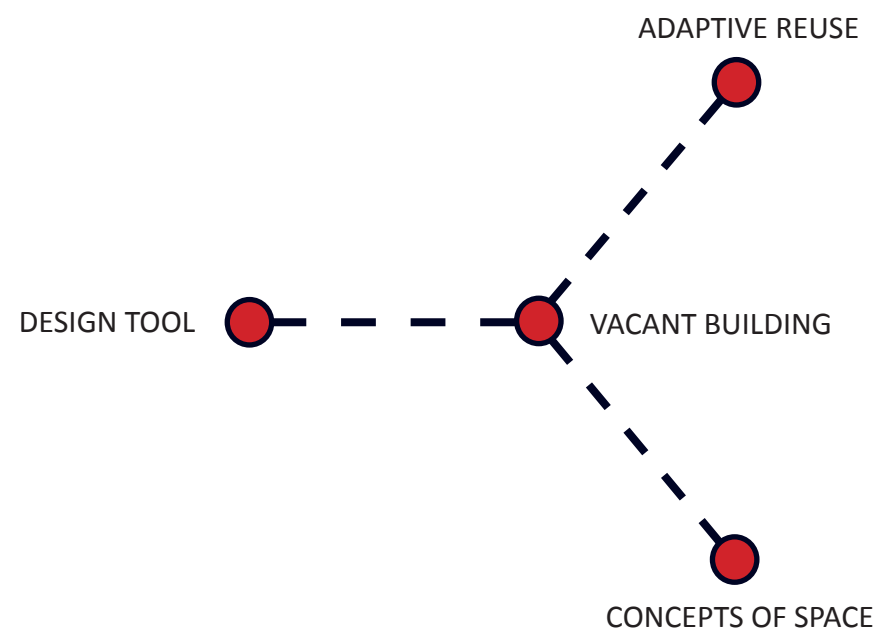
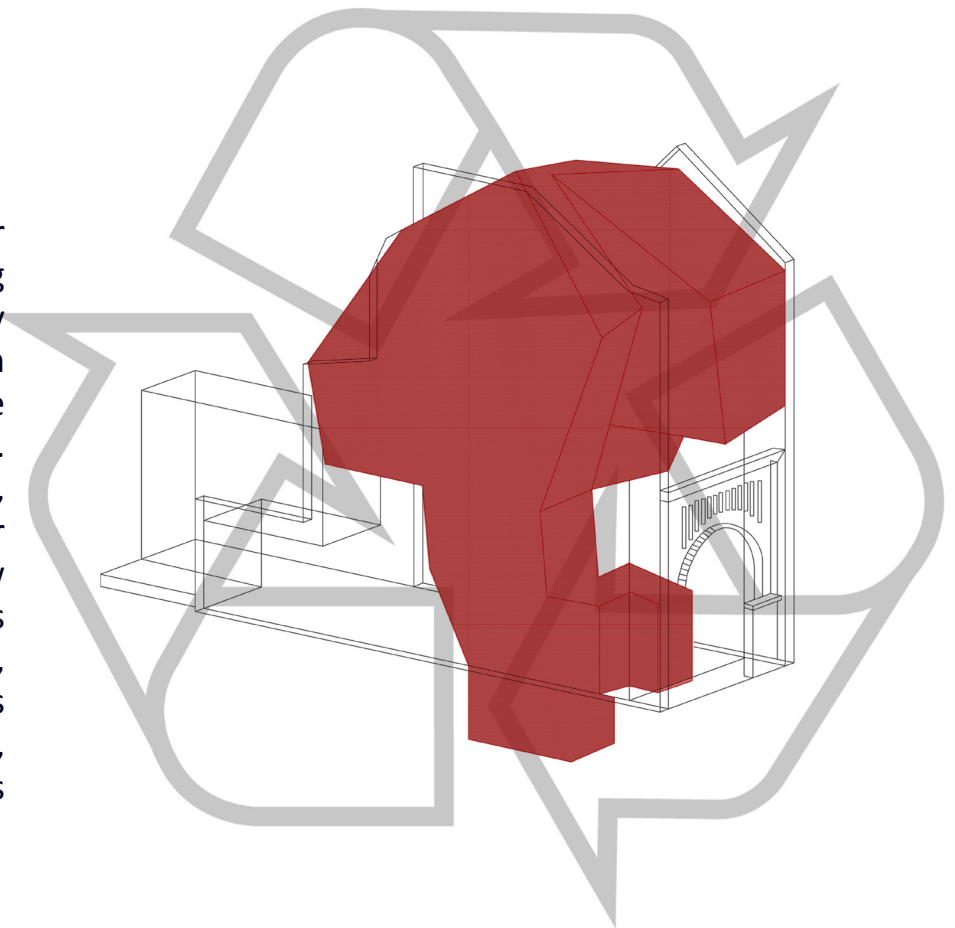
“A new way of thinking ought to be fostered, one which considers that towns are never completed and that the buildings which are erected are always complements or additions of what already exists.” (Robert, 1989, p. 11)

The recycling phenomenon began as an effort to preserve our past and future heritage, not by mere restoration but by adapting buildings to new functions for which they were not originally intended. Adapting buildings allows the architects to keep up with the demands and functional requirements of the modern era, while assisting and influencing the built environment in a positive manner. Recycling, retrofitting, extended use, repairing, renovating, renewing, redeveloping, redesigning and adaptive reuse are all words we hear as architects today. The adaption of buildings has allowed for new architectural innovations and theories which solve problems such as vacant buildings. There are many types of vacant buildings in our city, all of which have their own distinct characteristics and constraints to consider. Do we simply adapt buildings by constructing around, alongside, over or within them? What key principles or approaches will help us create a successful adaptive reuse project?

## THE EQUATION

There are many vacant buildings in Johannesburg. How does one decide whether to demolish, retain and/or adapt them? This thesis aims to explore and understand the approaches and methods implemented in adaptive reuse currently and through the understanding of the basic principles and varied approaches, I will be able to explore the methods even further using the theory of space. The concepts of space are a forever growing field of knowledge and have been broken up into several specialised constructs which aid in our orientation. The book ‘Existence Space and Architectural Space’ written by Norberg-Schulz has sparked the main influences in my thesis for the theories concerning existential space and ‘place’. Existential space symbolises man’s being in the world and how man has structured the environment through the need for orientation. I will explore these theories and see how they apply to architectural space or in this case, adaptive reuse.

If space is the ‘alpha and omega’ of our profession, the concepts of space will become an important base as a Design tool, which could be used for any vacant building and possibly even for new buildings. The creation of a design tool will then help pinpoint an approach and method to designing and adapting vacant buildings. The vacant buildings I want to explore using the created methodology are not heritage sites but are the everyday architectural fabric that has fallen into a downward spiral of decay. These buildings are our future heritage and are in jeopardy of being destroyed.



Louis I Kahn (1957) said “Architecture is the thoughtful making of spaces. The continual renewal of architecture comes from the changing concepts of space.” (Van de ven, 1980, p. xi)

As time changes so does our needs and requirements, sparking new architectural interventions as a resultant of man’s need for orientation within the built environment.

1.2  
VACANT BUILDINGS  
NO PURPOSE

VACANT

EMPTY

VOID

NO ACTIVITY

DEAD SPACE

FIGURE 6



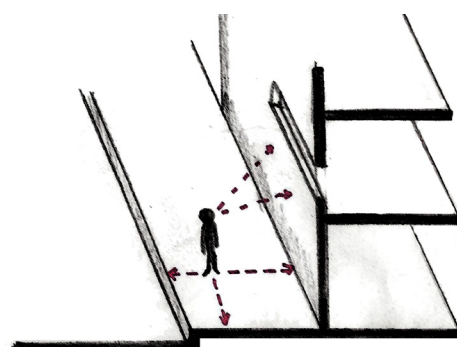
Matthias Albrecht Amann (Chaplin & Stara, 2009, p. 103) explains in the essay 'Caring for Dead Architecture' that a building is often perceived as living, everything which lives must die. Death is associated with living organisms and dead organisms can only be remembered through photographs and certain meaningful objects, enforcing memories. These objects gain sentimental value and can never be replaced due to the fact that they help facilitate memory associated to that specific event in time that can never be relived.

"Memory is the ground of self identity; we are what we remember."  
(Treib, 2009, p. 18)



FIGURE 7

Vacant buildings can be seen as dead architecture as they have no purpose and start to impact negatively on the surrounding context. The buildings generally look dilapidated, dangerous and uninviting and the inherent potential within the architecture has instead become a breeding ground for theft and vandalism. Architect Arthur Cotton Moore (Diamondstein, 1978, p. 25) says that every building's function is to make money. The numbers of vacant buildings increase at every economic downturn as businesses are forced to shut down, resulting in the buildings becoming unoccupied. Amann (Chaplin & Stara, 2009, p. 104) describes architecture as only being alive if it is being used and if it is not used it can be considered 'dead'. There are many scenarios as to why we have vacant buildings but I feel that the reason could be the changing needs and requirements of the environment. If too many vacant buildings arise without a way of handling them, our cities could become hazardous and filled with negative perceptions, leading to future problems regarding investment and potential growth. Vacant buildings could start a cycle of decay moving through the city from the inside out.



LOST SOCIAL CONNECTION  
WITH THE  
SURROUNDINGS



FIGURE 8

Derek Latham (Latham, 2000, p. Preface) says Greenfield development is discouraged within a city due to 'Green' conservation issues. Parks are a much needed necessity for the healthy psyche of people, creating a problem for the future development in a city. We are splintered between the past and future. Vacant buildings can be seen as a problem, so should we demolish to make space for the new in order to keep up with the changing demands and requirements within our city? Amann (Chaplin & Stara, 2009, p. 106) explains demolition does not work; the surrounding inhabitants are affected negatively due to the loss of collective memory within the environment. If individuals hold onto objects to remind themselves of a past time, the object has embodied memories. Architecture, like an object, can both embody and facilitate memory. Therefore events can be recorded in the roots of architecture, helping reconstruct the history of the city. Architecture is the best form of history as it's not written in endless mountains of books but rather it can be experienced revealing a layered story of the environment and the events of a past time.

"Is there a way to separate the question of value from the question of age?" (Maas & Sverdlov, 2009, p. 165). The book 'Visionary Cities' (Maas & Sverdlov, 2009, p. 170) explains that for a building to classify as heritage it must either be a 'masterpiece' or have an historical or cultural significance. The argument of age being criteria for heritage can't be justified as the future heritage lies with the buildings of today. History seen as a whole is more powerful and all the fragments together constitute a deeper more layered history of a city. The recycling phenomenon began to solve the potential hazards of vacant buildings and give them new life so their history can be carried forth to the next generation.



# 1.3 ADAPTIVE REUSE NEW FUNCTION

There is memory embedded in the roots of architecture and it can be seen as a living, breathing piece of history. According to New York Landmarks Preservation Commission in 1975 adaptive reuse came about as an attempt to preserve the history of a building and “pay respects to the aesthetics and craftsmanship of another time” (Diamonstein, 1978, p. 13). Architecture has been described as living or dead and Matthias Albrecht Amann (Chaplin & Stara, 2009, p. 105) explains that medicine is normally only applied to subjects that are alive but architecture can come back from the dead. Dead architecture such as vacant buildings can only be given a new life if used by living organisms. Adaptive reuse is not merely restoring a building back to its original form but giving the building a life through a new function, for which the building was not initially designed. We have become building doctors for the future and converting buildings has becoming a fertile field of intervention for architects.

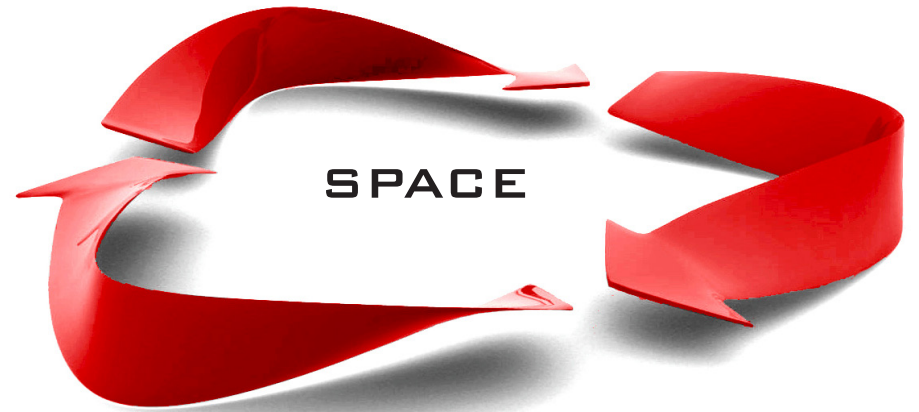


FIGURE 10

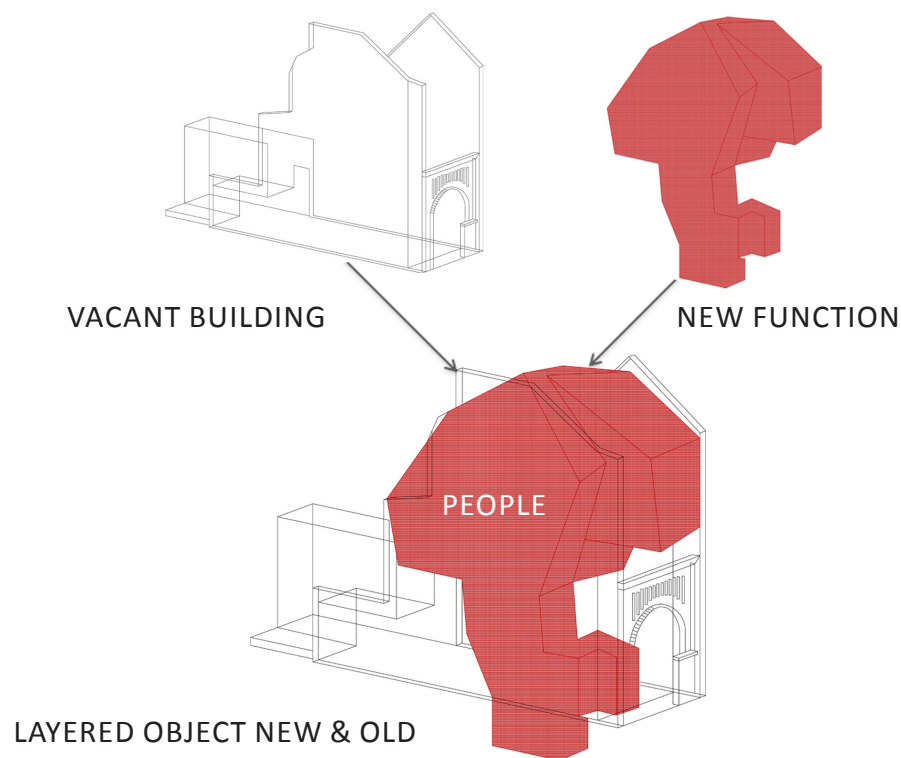
**ADAPTIVE REUSE**  
**RECYCLING**  
**RETROFITTING**  
**EXTENDED USE**  
**REPAIRING**  
**RENOVATIONS**  
**RENEWING**  
**REDEVELOPING**  
**REDESIGNING**  
**REMODELLING**

Sherban Cantacuzino, exclusive editor of the architectural Review said, “Because their structures tend to outlive their function, buildings have continuously been adapted to new uses - a fact which has enabled generation after generation to derive a sense of continuity and stability from their physical surroundings.” (Diamonstein, 1978, p. 15)

FIGURE 9 -  
Legal / Illegal House, Cologne, Germany by Manuel Herz

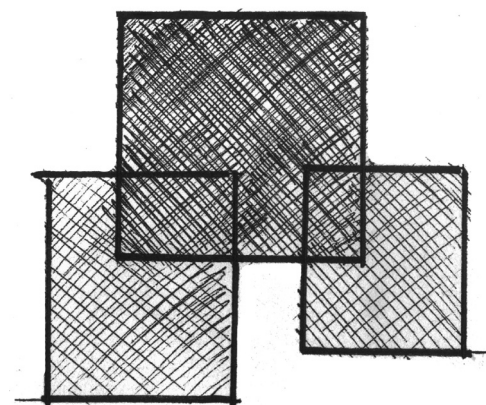


Apart from preserving a piece of history, adaption has a few other advantages. Keeping the building's existing structure makes economic sense as we are saving on materials and the cost of demolition. This could be seen as a form of recycling, which is a good motive as our world is faced with the issue of being more energy conscious. The recycling of materials is not the only recycling taking place. Recycling vacant buildings allows for the space that was once considered wasted to be integrated back into the existing environment.



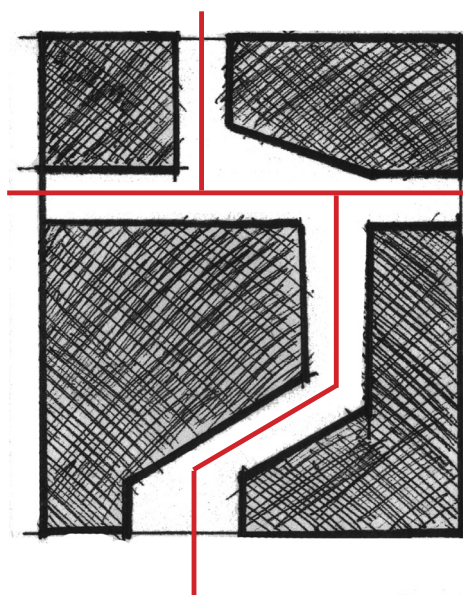
Not all buildings can be recycled as some buildings have no significance, for example: a shed at the back of the site, while some buildings are far beyond repair as they are no longer structurally sound. The cost (Diamonstein, 1978, p. 25) to adapt the building depends on the condition and compatibility of the existing building, and the new function. Industrial buildings (Robert, 1989, p. 9) are generally massive in size and have large volumes which are often too oversized for future use. This building typology is perfect for reuse as it can take on so many alternative functions and the space can be broken into smaller, more manageable sections. Many industrial buildings have become successful adaptive reuse projects but the everyday fabric that our cities comprise of like office buildings don't consist of such generous volumes. What factors will help guide and create a new programme for the vacant building? "The use to which any building is converted ought to feature a symbolic content at least equivalent to that found in the original." (Robert, 1989, p. 9) The spatial requirements for the new function must be compatible with the existing buildings and the function must have a relationship with the surroundings if the building is to have purpose and gain new life.

Does form follow function once the function has been removed? This question has sparked a large amount of personal interest as this could answer the question of how the new constitutes to the old in terms of aesthetics. The Bauhaus taught (Diamonstein, 1978, p. 28) architects to create space as a result of the function and the form shall follow. Vacant buildings have a form so what happens when the new function is implemented? Diamonstein (Diamonstein, 1978, p. 28) explains further that designing a new building is an inductive process: adding space and creating larger spaces depending on the spatial requirements of that function. Recycling on the other hand can be seen as a deductive process: first looking at the compatibilities of the new function with the existing structure then deducing what should be kept and added. Some adaptive reuse projects take an interior approach (Robert, 1989, p. 11), designing from the inside out and the space added or left over is a direct result of the new function and compatibility of the existing building.



#### INDUCTIVE PROCESS

Greenbuilt projects allow the architect to add space as needed. The building is only confined by the perimeter of the site.



#### DEDUCTIVE PROCESS

Keeping parts of the building allows for memory to be triggered while removing parts that are no longer needed. The new functions are then added within the existing structure. Interesting to note that the negative space becomes the movement routes.

Form follows function depending on the compatibility of the existing, but how does the city respond to the adaption if the building's facade has no tie to the new function?

Every building has a different character, condition and history. Individuals all remember different aspects of the building depending on their relationship with the object. Memory of a building is a difficult issue to tackle. We all perceive and remember different parts of a building, so what parts of the building do we keep? Derek Latham (Latham, 2000, p. Preface) talks of creating a harmonious balance between the new and old to activate the energy of both. If the building consists of new and old and parts of the building are removed, the history of the building would be watered down. Philippe Robert (Robert, 1989, p. 6) explains that an alteration becomes a part of the new history of the building, creating a layered space with a strong relationship between memory, place and future use.

A palimpsest (Robert, 1989, p. 6) is a term given to a surface that has been written on over and over again, resulting in the surface becoming layered over time. Architects have been inspired by this juxtaposition and relationship between time and space. Adaptive reuse projects can be seen as palimpsests; rewriting space, but there is no fixed method or approach to design. Derek Latham (Latham, 2000, p. Preface) said that adaptive reuse is a methodology and not a style.

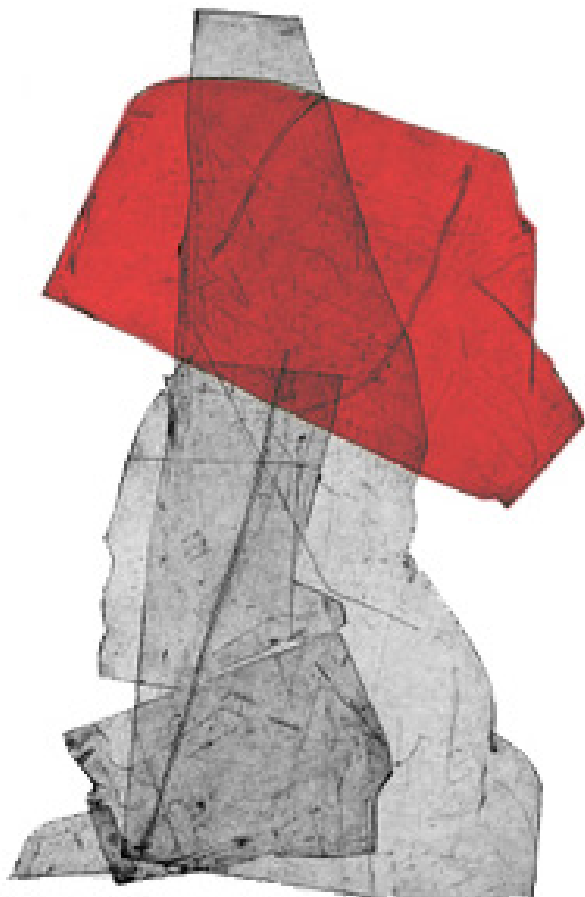


FIGURE 11

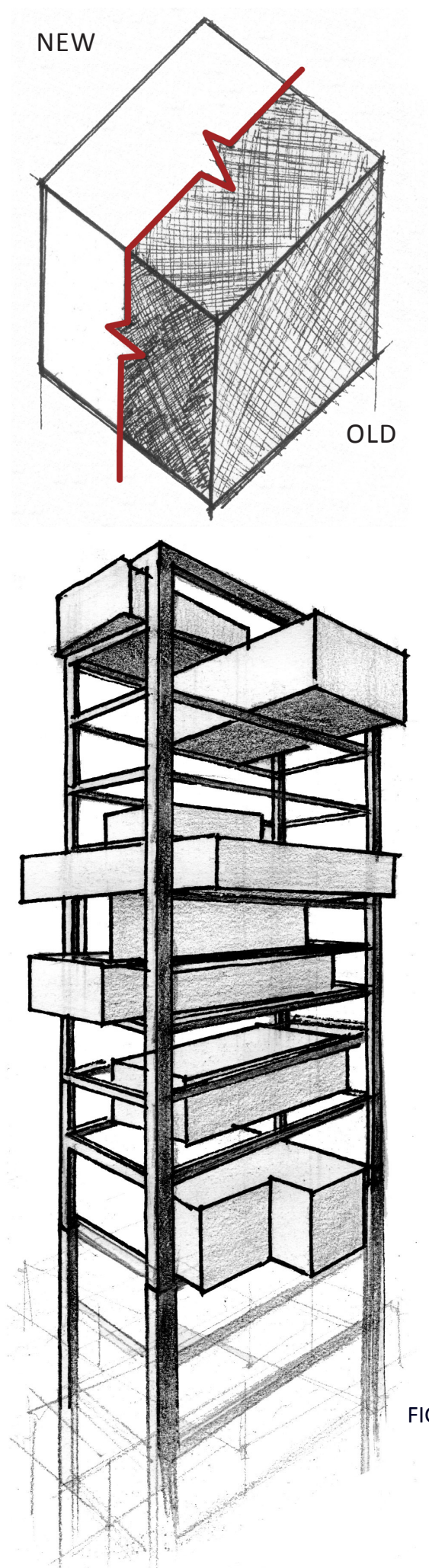


FIGURE 12





FIGURE 13

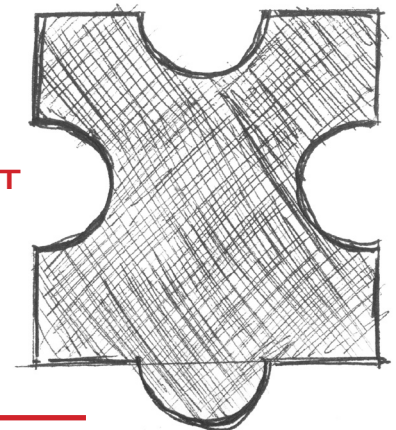


# THE NEED FOR A METHODOLOGY

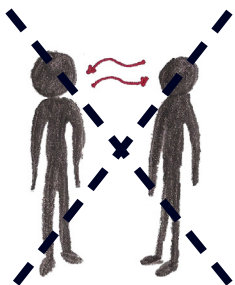
## INTERGRATING DEAD ARCHITECTURE BACK INTO THE ENVIRONMENT

The need to preserve our memory has sparked a whole new breed of architecture by recycling what was once considered a wasted space, back into the environment by giving an existing building a new purpose. The environment and the compatibility of the existing building has a large influence on what the building can become in terms of a new function and an aesthetic value. The environment should be the key to unlocking the clues as to how to successfully integrate vacant buildings back into our cities. What theory will help create a design tool that can consolidate current thoughts and key principles which could shift the design goal into a new light? Louis I Kahn (1957) said "Architecture is the thoughtful making of spaces. The continual renewal of architecture comes from the changing concepts of space." (Van de ven, 1980, p. xi)

ENVIRONMENT



## HOW DO WE INTERGART E VACANT BUILDINGS BACK INTO THE ENVIRONMENT?

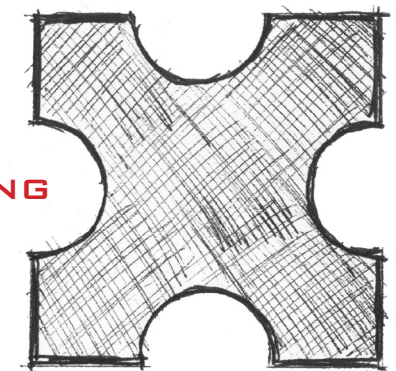


MEMORY

LOST SOCIAL  
CONNECTION WITH ENVIRONMENT

NO FUNCTION

VACANT BUILDING



## CONSOLIDATE PAST IDEAS



PRESERVE MEMORY

NEW FUNCTION

DEDUCTIVE PROCESS

PALIMPSEST

ADAPTIVE REUSE

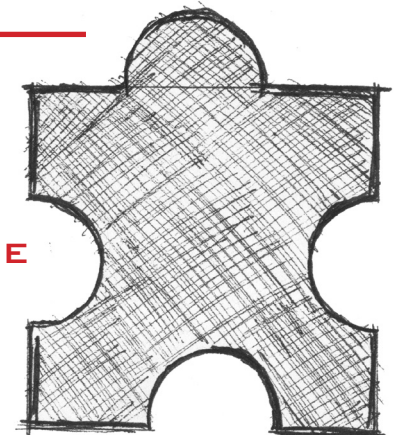
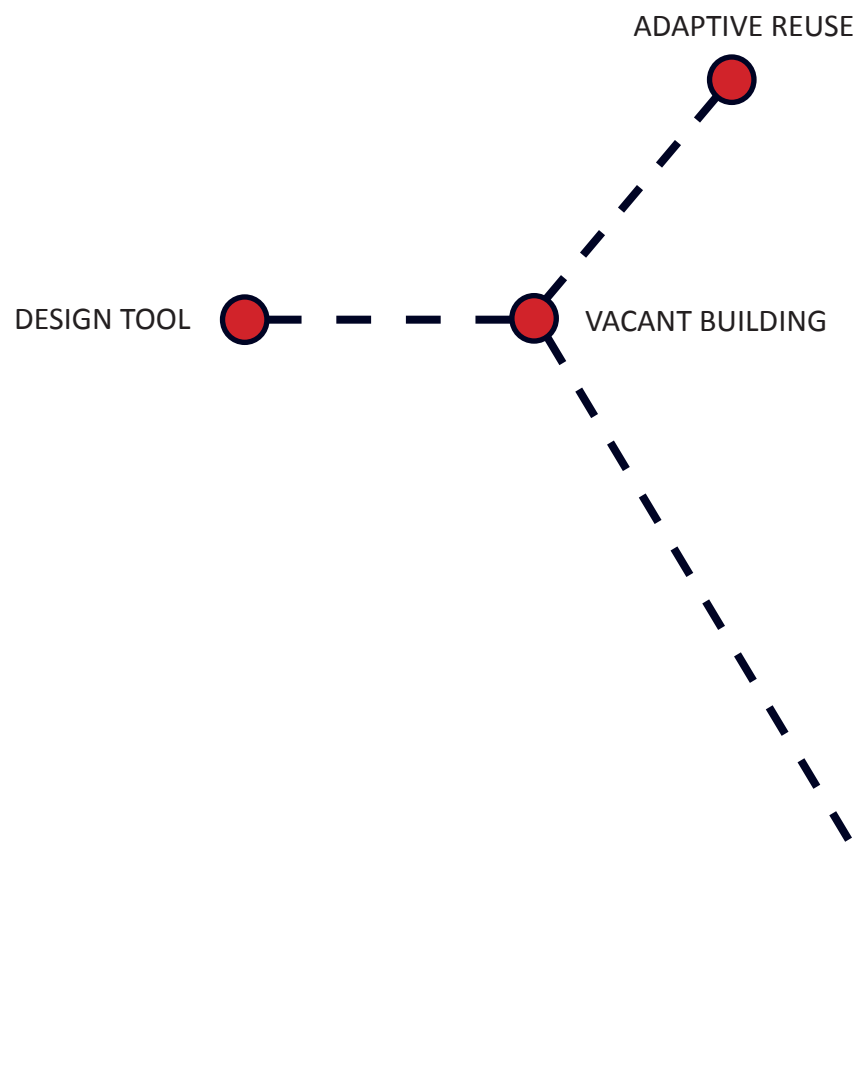


FIGURE 14



# SPACE CONCEPTS

What is Space?

What are the concepts of space?

I have heard architects and books talk about space as the essence of architecture, so what better place to begin the search to a design tool for adaptive reuse?

1.5

## WHAT IS SPACE?

### THE UNIVERSE




FIGURE 15

In the beginning there was nothing, a hard concept to grasp, I can't help picturing something. According to scientists (Anom, 2002 ) the universe started with a Big Bang which released 3 spatial dimensions such as height width and depth and one temporal space – Time. According to string theory there are nine different spatial dimensions, 6 of which are miniscule and are yet to be understood. The Big Bang theory explains how the universe began with a 'singularity' 13.7 billion years ago. According to scientist a 'singularity' is thought to

be found in black holes which have a massive sucking or pulling force, which squashes matter into an 'infinite density'. Singularities are infinitely hot and dense and due to the explosion or the big bang, the singularity is continually expanding and cooling down, creating what we know as the universe. Mind boggling, to think our whole existence started with a singularity which is infinity small to becoming a universe that consists of billions of stars and planets, the earth being one of the planets, our home and place of existence.





The Sci-fi film called Mr. Nobody (2009), starring by Jared Leto as Nemo (Mr Nobody) inspired some of my thought about space. The movie is about choices and each choice leads to an alternate version of the protagonist's life. My favourite scenes of the movie are when Nemo explains the universe in relation to time asking questions such as:

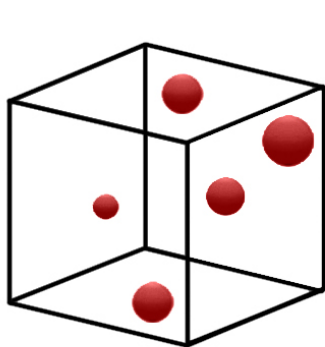
What will happen when the universe  
has finished expanding?  
Why does cigarette smoke never  
go back into the cigarette?  
Why do molecules spread away from each other?  
Why does the spilled drop of ink never reform?

The principle of entropy is related to time moving in one direction as a direct result of the universe expanding. The universe is in the process of dissipation and each choice can be seen as a brief moment in time that can affect the results of the future. Mr Nobody is confused as to who he is and has lost memories which form a part of his self identity. Similarly, in architecture, removing existing structures in our city, despite having always been a debate, finally comes down to a choice which directly impacts the future identity of our cities.

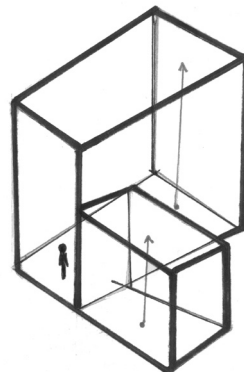
## 1.6 SPACE IN ARCHITECTURE

“Space handling is seen as the art of architecture.”  
(Farmer & Louw, 1993, p. 333)

In architecture we talk of “making” spaces and it has been said that the creation of space is the essence of architecture and our architectural profession. It is hard to understand space as it is immeasurable and infinite. Isaac Newton (1643-1727) distinguished absolute and relative space. Absolute space is infinite whereas relative space has co-ordinates within the absolute space. Relative space therefore can be measured. Louis Khan often proclaimed that, “architecture is the immeasurable becoming measurable” (Van de ven, 1980, p. 32). Architectural space is a piece of relative space taken from the immeasurable and encapsulated in the confines of the structure or mass. Architecture is three dimensional; it has height, width and depth and is a methodical development of two and three dimensional geometric drawings. This unique segment of space is built and absorbed into our human system and our built environment.



OBJECTS IN SPACE



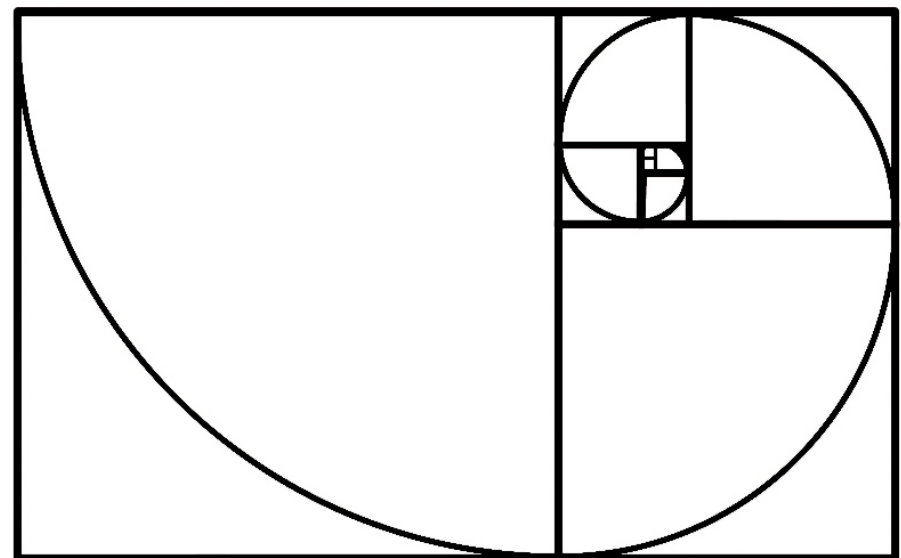
SPATIAL RELATIONSHIPS

Euclidean space was created as a set of points which create relationships between angles and distances related to the image of man, informing the buildings aesthetics. Space moved away from the Euclidean idea towards a more ‘aesthetic idea’. “It is a common experience that moving from a small enclosed space into a larger space seems by its contrast to make the latter more impressive” (Farmer & Louw, 1993, p. 334). Our body is constantly interacting with the environment and continually remembering what is around us, the volume of the space increasing plays on our instinctual reactions. This started making architects realise that space has more than one variable and can no longer just be designed by mathematics. Spaces in architecture must have a human quality because the world is experienced and lived. “The new idea of space supported the late nineteenth century attempts to crush the falsities of the eclectic styles.” (Van de ven, 1980, p. XIII)

I remember in my first years of studying architecture, playing with shapes and trying to make my building work spatially and look aesthetically pleasing. The first questions asked about the project were: Where is your building located? How does the building next-door affect your design? Architectural space is no longer just an ‘aesthetic idea’ and buildings can no longer be designed in isolation. Norberg-Schulz along with other theorists and architects realised the need for a more comprehensive theory regarding space and architecture.



FIGURE 17

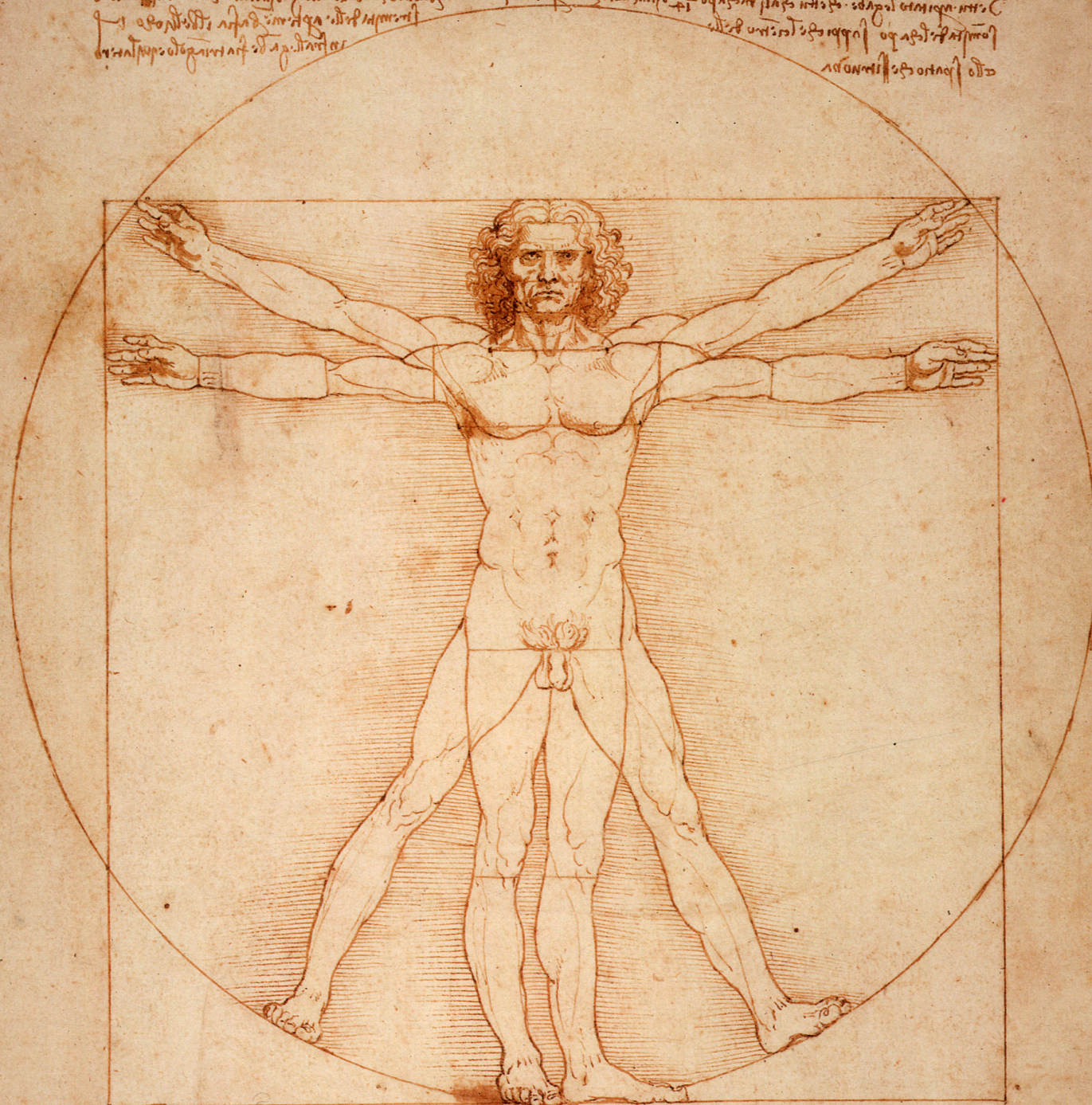


THE GOLDERN SECTION

FIGURE 18



no. 1.  
-A-

[illegible]

IIII  
r8. portog

*faint handwritten text*

[illegible]

Leonardo  
Vinci

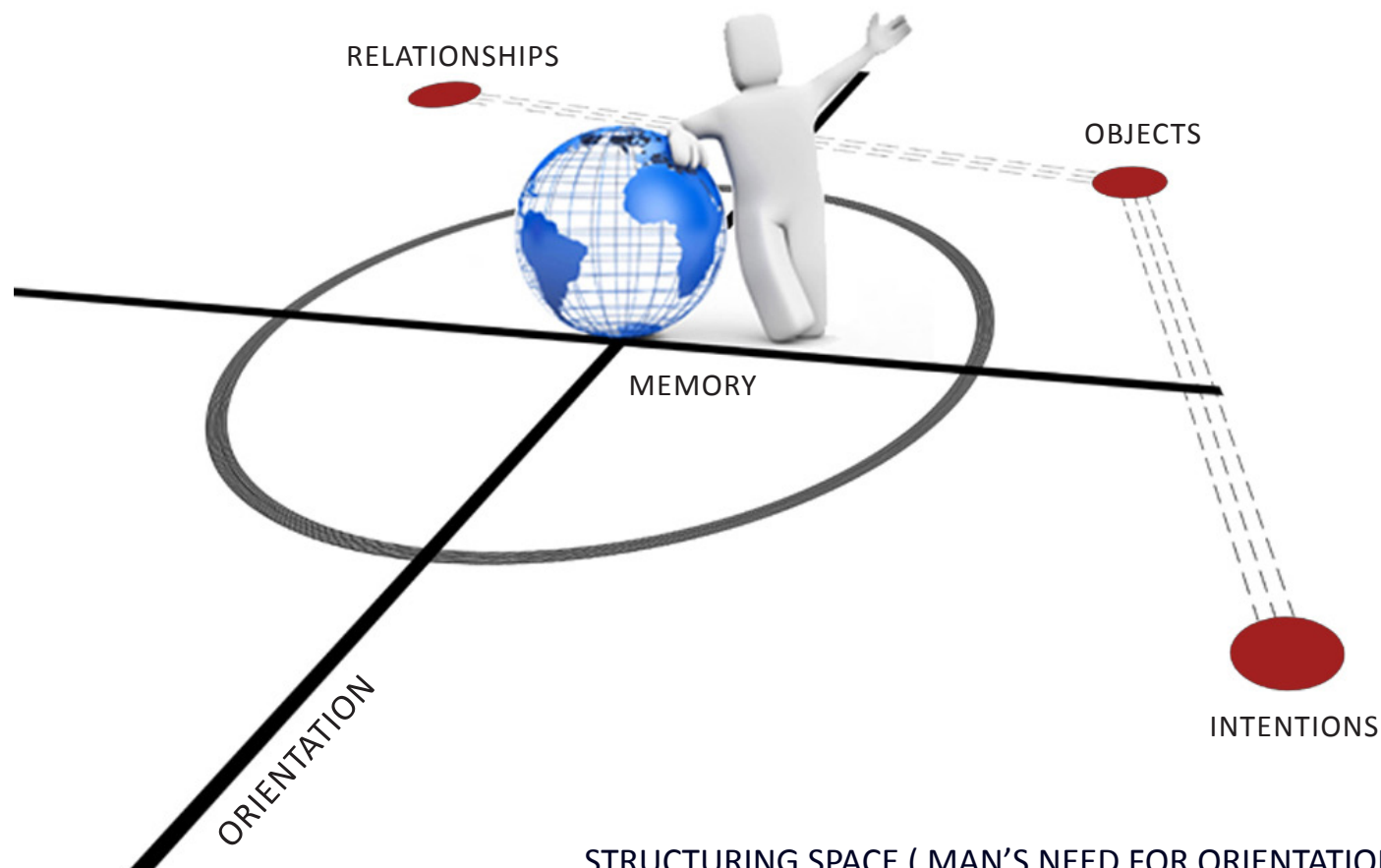


## 1.7 SPACE CONCEPTS ORIENTATION

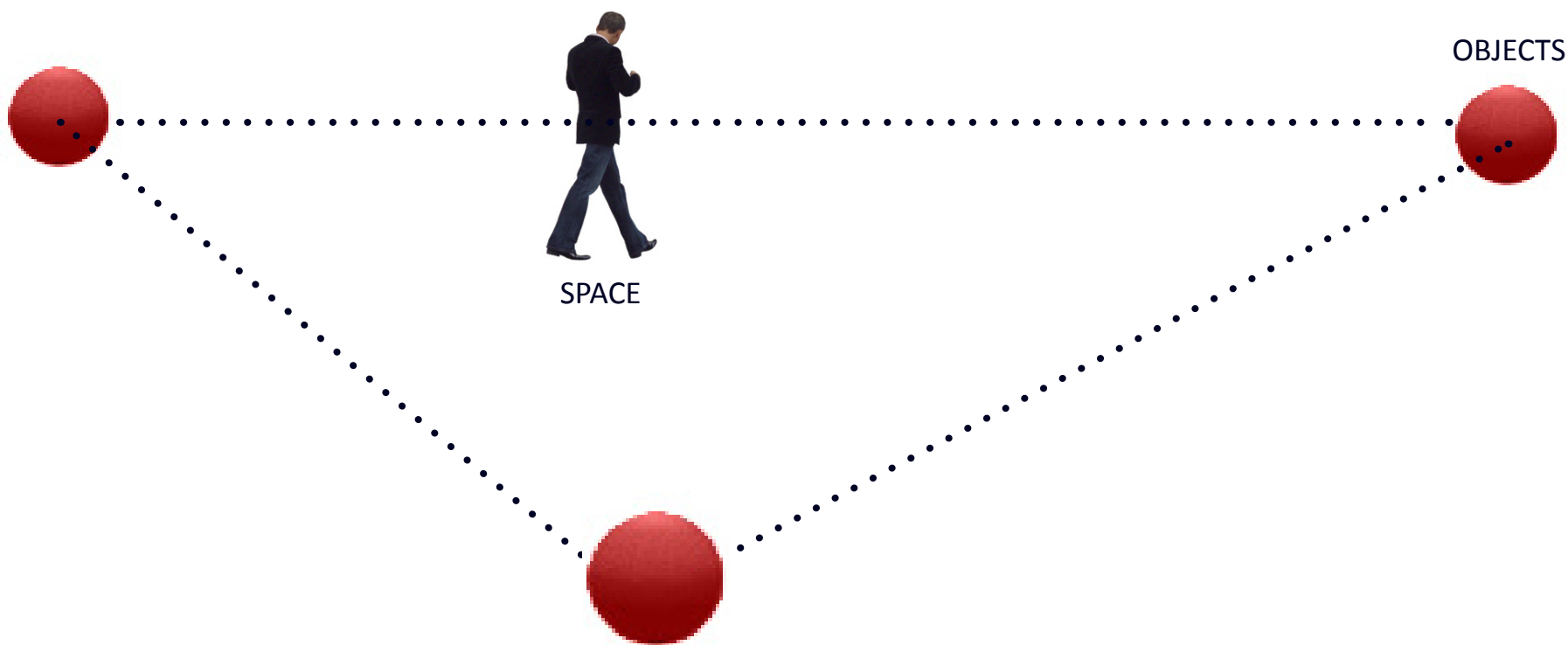
“Space, therefore, is not a particular category of orientation, but an aspect of any orientation. It should, however, be stressed that it is only one aspect of any orientation. To be able to carry out his intentions, man has to understand spatial relations and unify them in a space concept.” (Norberg-Schulz, 1972, p. 9)

### NORBERG-SCHULZ MODEL OF THE SYSTEMS OF SPACE WHICH AID IN OUR ORIENTATION

Space in architecture has been approached differently through the years, the ideas of perception as well as the three dimensional approach. Norberg-Schulz wrote the book ‘Existence, Space & Architecture’ dealing with theories concerning our existential space. Existential space is how man interacts with objects within the world and makes a mental map of where they exist in space. Man’s actions are spatial, so the objects in space are tied together through a relationship, for example: inside, outside, home, work, close or far. This relationship or mental map we form of the spatial layout directs our “wayfinding” or orientation behaviour and helps man act based on his activities and intentions, helping to create meaning within space. There are several specialised constructs of space which aid in our orientation. A brief look at the different constructs will give us a better background to the theories and topic of existential space.



STRUCTURING SPACE ( MAN’S NEED FOR ORIENTATION)





## PRAGMATIC SPACE

### PRIMARY ORIENTATION

“As we struggle with gravity we distinguish up from down, we learn left from right and back from front. All these spatial relationships may begin from an awareness of ourselves”  
(Farmer & Louw, 1993, p. 335)

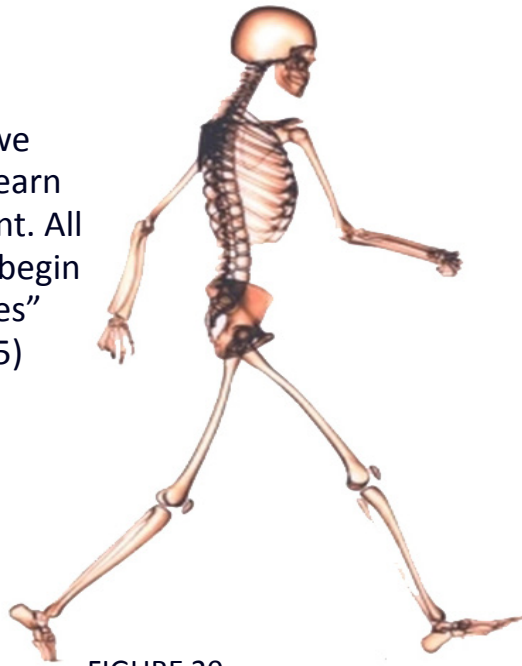


FIGURE 20

Pragmatic space can be viewed or expressed as the ‘position’ of an individual in the world. Inborn instincts are our most basic primary knowledge of space and the environment. Spatial relations such as up and down are not abstract as they have a direct relation to man and his environment (Norberg-Schulz, 1972, p. 9). Architects learn about ergonomics which is the study of designing around the human body and through understanding the proximity of objects in relation to the human body, tasks and activities are able to be carried out more efficiently. Pragmatic space could be viewed as how the body physically works in relation to the environment.

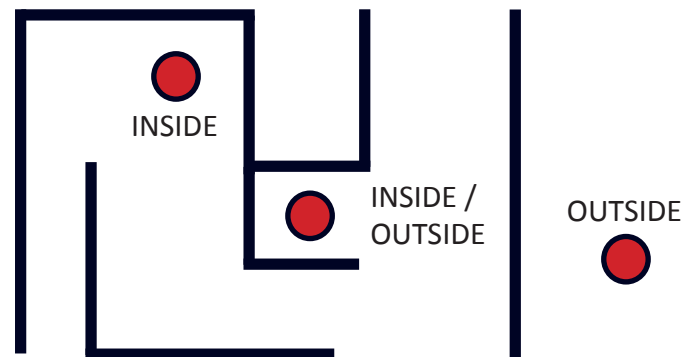


FIGURE 21



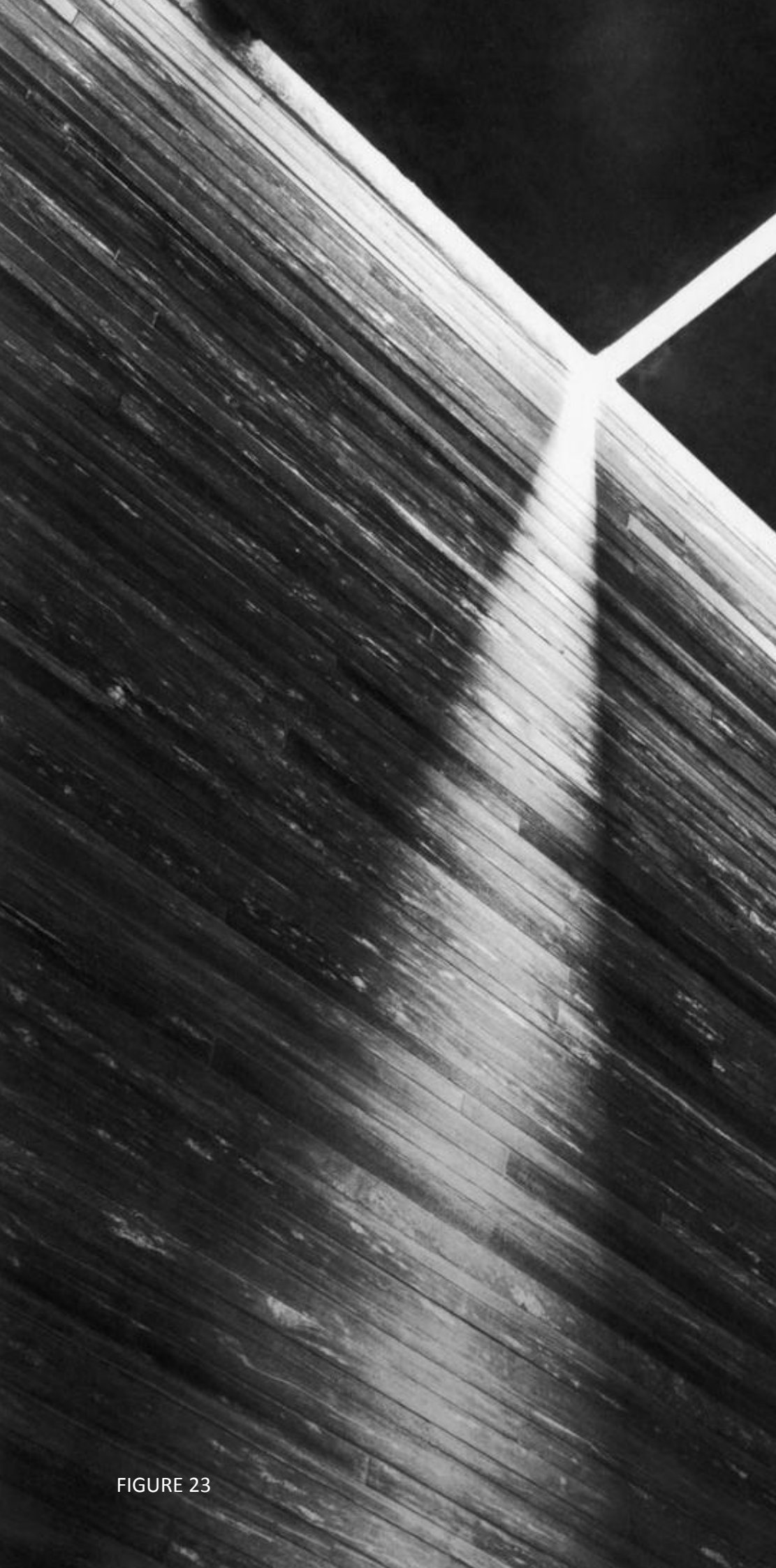


FIGURE 23

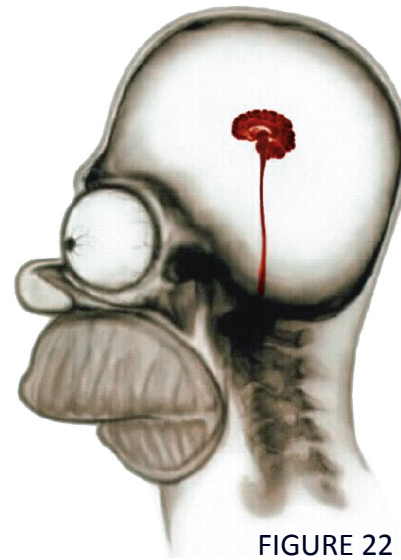


FIGURE 22

## PERCEPTUAL SPACE IMMEDIATE ORIENTATION

“Perception, on the other hand, better describes one’s ultimate experience of the world and typically involves further processing of sensory input”  
(Lindsay & Norman, 1977).

Juhani Pallasmaa in the book ‘The Eyes of the Skin’ (Pallasmaa, 2005) explains that the eye is able to touch. We register the surfaces through our vision and our memory of touching surfaces with a similar texture enables us to associate our perceptions with how the material feels in reality; whether it is smooth, rough, cold or warm. Perception is a process in which humans interpret and organise sensations within the environment. Our body’s sensory equipment registers these sensations and through experiences remembers how the environment made them feel emotionally and a perceptual space in our mind is created.

“Experiencing means being in a situation.”  
(Farmer & Louw, 1993, p. 335).

The world can be perceived differently depending on the immediate position and situation or intention within the environment. Our Perceptual space may be impacted by the situation we are in at that time. For example, if I am in a rush I will not be able to remember the spaces in a building, and my perceptual space may appear blurred as compared to that of someone who was walking around casually.

Perceptual space can be seen as a subjective reality as our memories and feelings belong to the realm of the mind, therefore it is seen as an abstracted space. Perceptual space has been studied by psychologists for years and is a complex process as there are many variables involved. We do not perceive the world in the same way. Architectural space has been argued to have more than three dimensions. Buildings are experienced and perceptual space can have countless alternate dimensions (Moore & Allen, 1925). Light, colour, temperature and smell are all considered perceptible variables within architecture.



## EXISTENTIAL SPACE

### MAN'S BEING IN THE WORLD

“We have defined existential space as a relatively stable system of perceptual schemata, or ‘image’ of the environment.”  
(Norberg-Schulz, 1972, p. 17).

The human environment where man dwells within the universe can be called existential space, ‘being in the world’ (Norberg-Schulz, 1972, p. 7). Our existential space is comprised of dreams in which man results in trying to change or restructure the environment in order to improve his conditions. Architecture is one physical aspect of this process and architectural space can be seen as an aesthetic, expressive space as it is designed by humans who all perceive the world differently. All these dreams and intentions come together forming a stable ‘image’ of the environment helping in man’s orientation within the world. Norberg-Schulz explains that our existential space or environment has a structure and can be seen physically in our cities; places are tied together by paths creating links and interconnections between activities within the surrounding context.

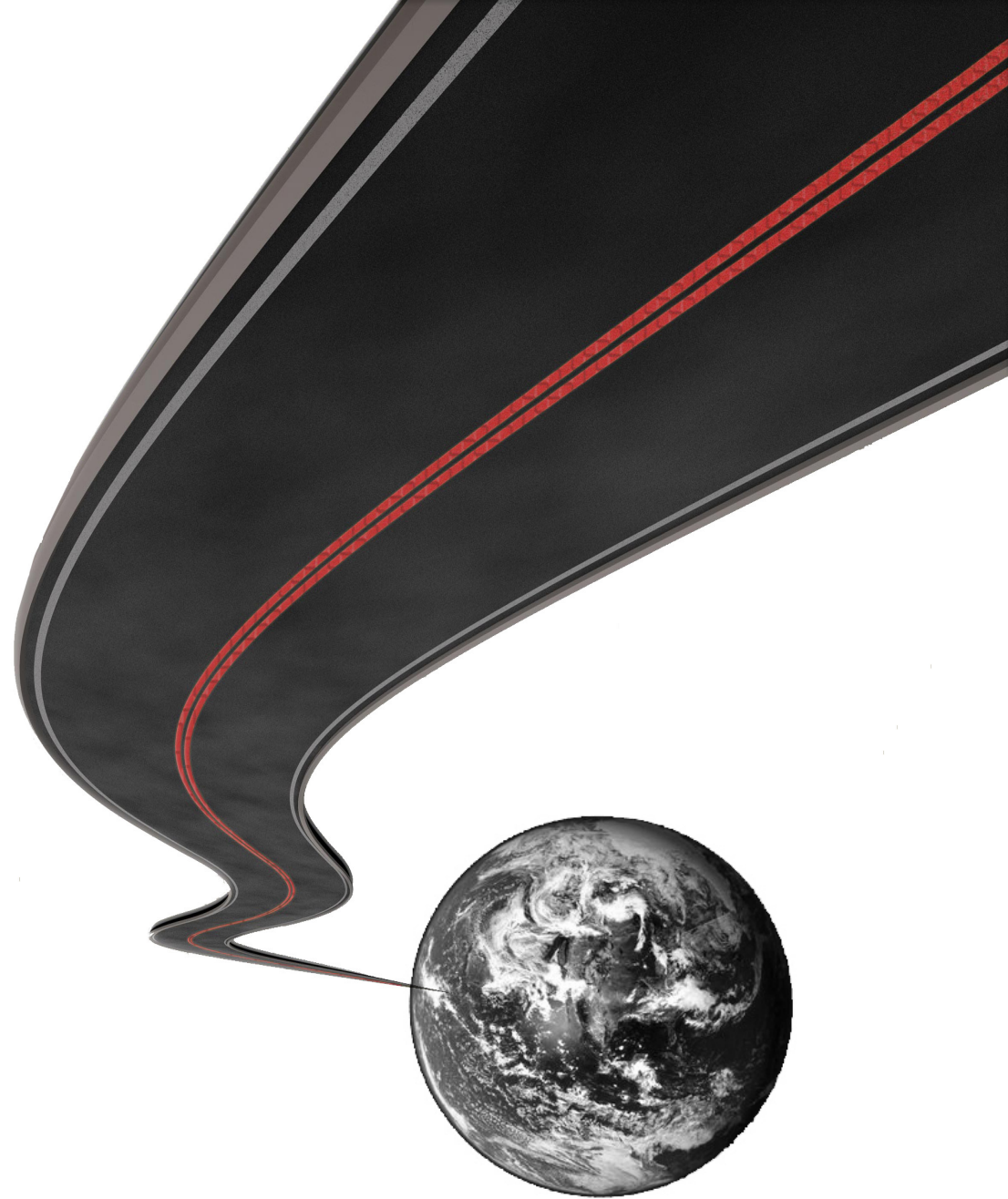
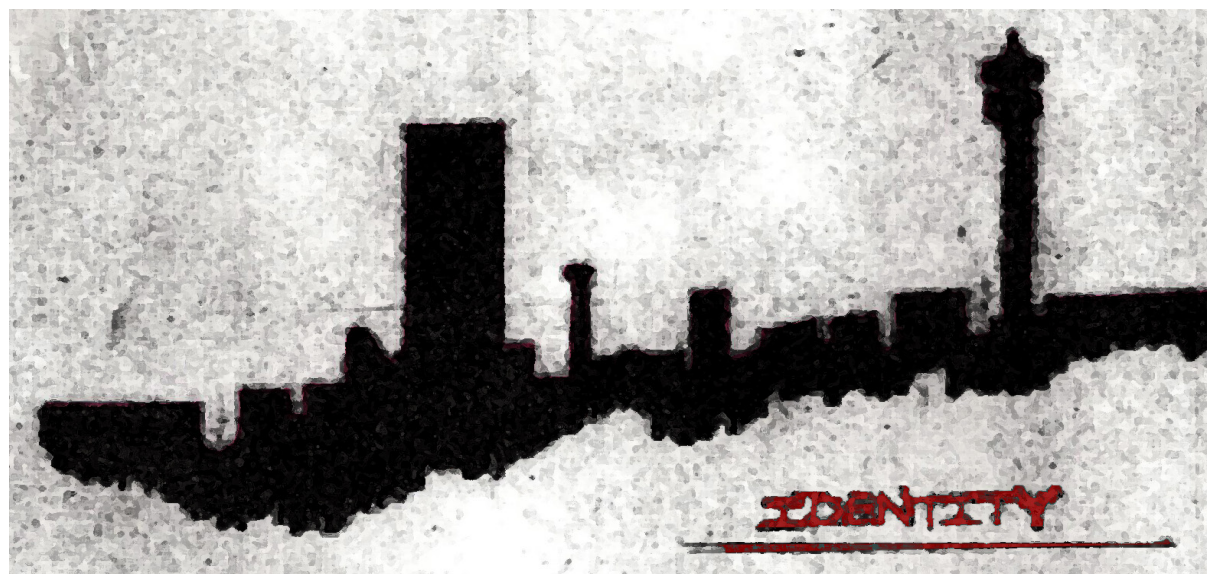


FIGURE 24



## COGNITIVE SPACE

### THINKING ABOUT SPACE

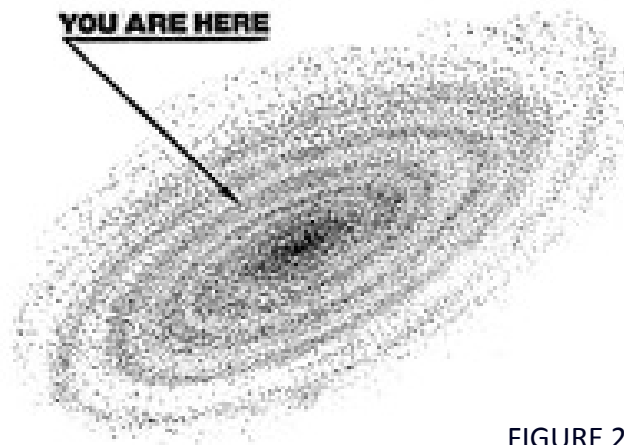
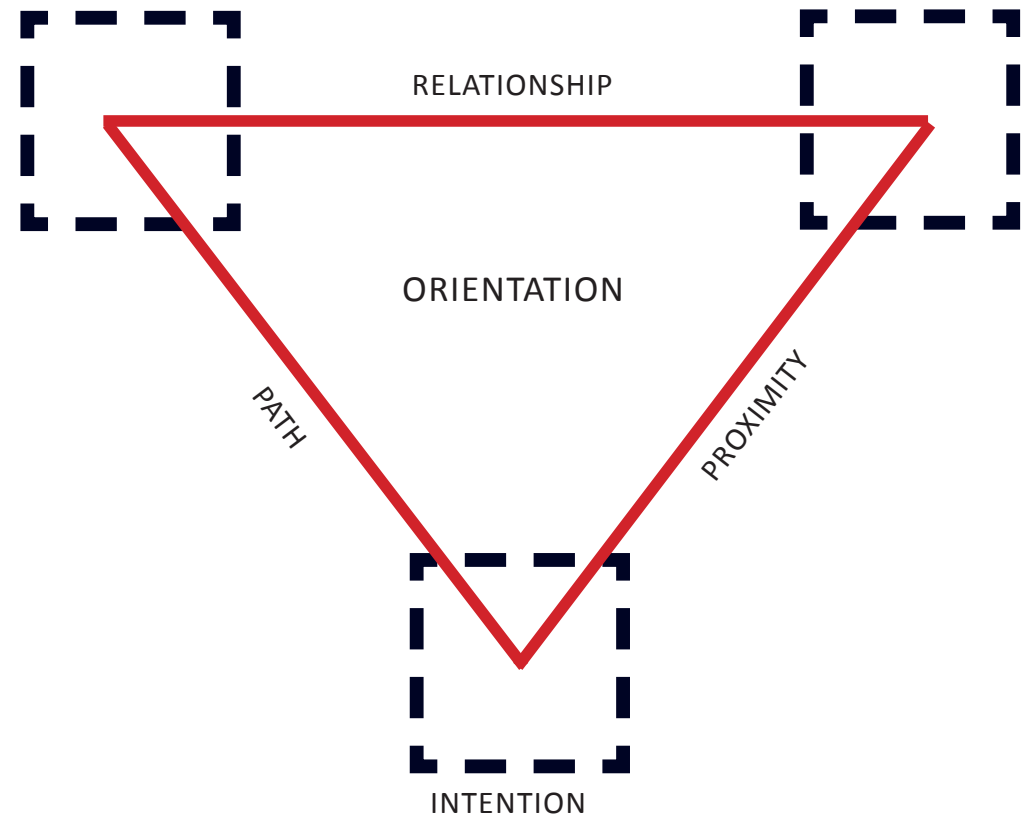


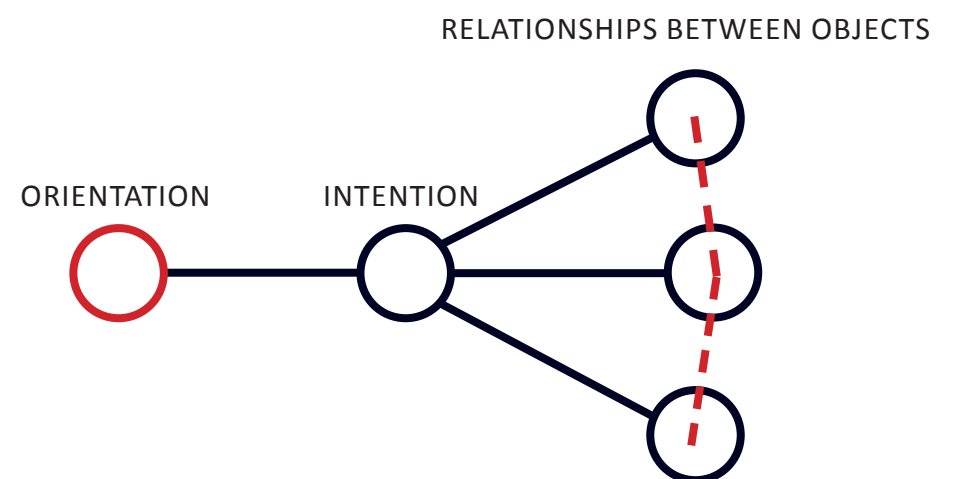
FIGURE 25

Cognitive space is the process in our minds whereby we are able to imagine and think about space and describe space. We are able to picture space in our minds and pinpoint our location in relation to the universe through the memory of places (Norberg-Schulz, 1972, p. 9). For example: I live in Johannesburg, South Africa in the southern hemisphere.

Being able to talk and think about space has resulted in the creation of space in architecture. When thinking about space, we start to structure it through relationships which are based through logical sequences. Spatial structure refers to the arranging of spaces to the needs and the behaviour patterns that occur within a building. Architecture can be seen as a structuring of space by means of a goal or path which accommodates the required activities and functions which are destined to be carried out within the building. A house can be broken up into a sequence of spatial entities that help make man's interaction with space more efficient. For example: the garage being near to the kitchen so that one can unpack the groceries, and the dining room being in close proximity for when the food needs to be served. The way spaces in a building interconnect can therefore influence efficiency, enabling people to work at their optimum potential, much like ergonomics, which on a smaller scale has to do with objects and the human body.



ABSTRACT OR PHYSICAL ORIENTATION



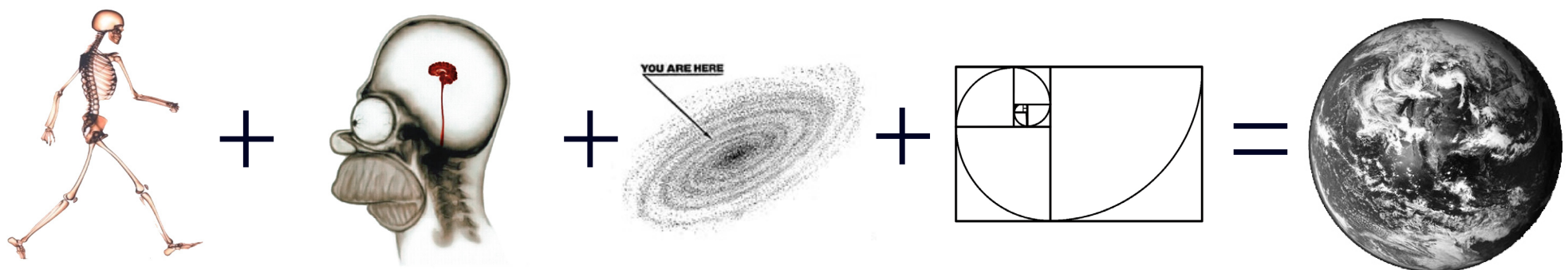
PROXIMITY OF OBJECTS NEEDED FOR A TASK

## LOGICAL SPACE

### THE SPACE CONCEPTS CANT BE UNDERSTOOD IN ISOLATION

Logical space (Norberg-Schulz, 1972, p. 11) is the tool to describe the other spaces, and has therefore directly resulted in the space concepts. Thinking of space, describing space and through the constant exploration of space has lead to a forever growing field of knowledge. Norberg-Schulz describes a growing abstraction from pragmatic space to logical space. Pragmatic space being at the bottom and logical space at the top, space is controlled from the top and that the experience of space is understood from the bottom (Norberg-Schulz, 1972, p. 11). The space concepts can't be understood in isolation as all these specialised constructs fall within a totality called existential space. The space concepts could be seen as the understanding of human behaviour in space and how man interacts and orientates himself whether abstract or physical.

FIGURE 26

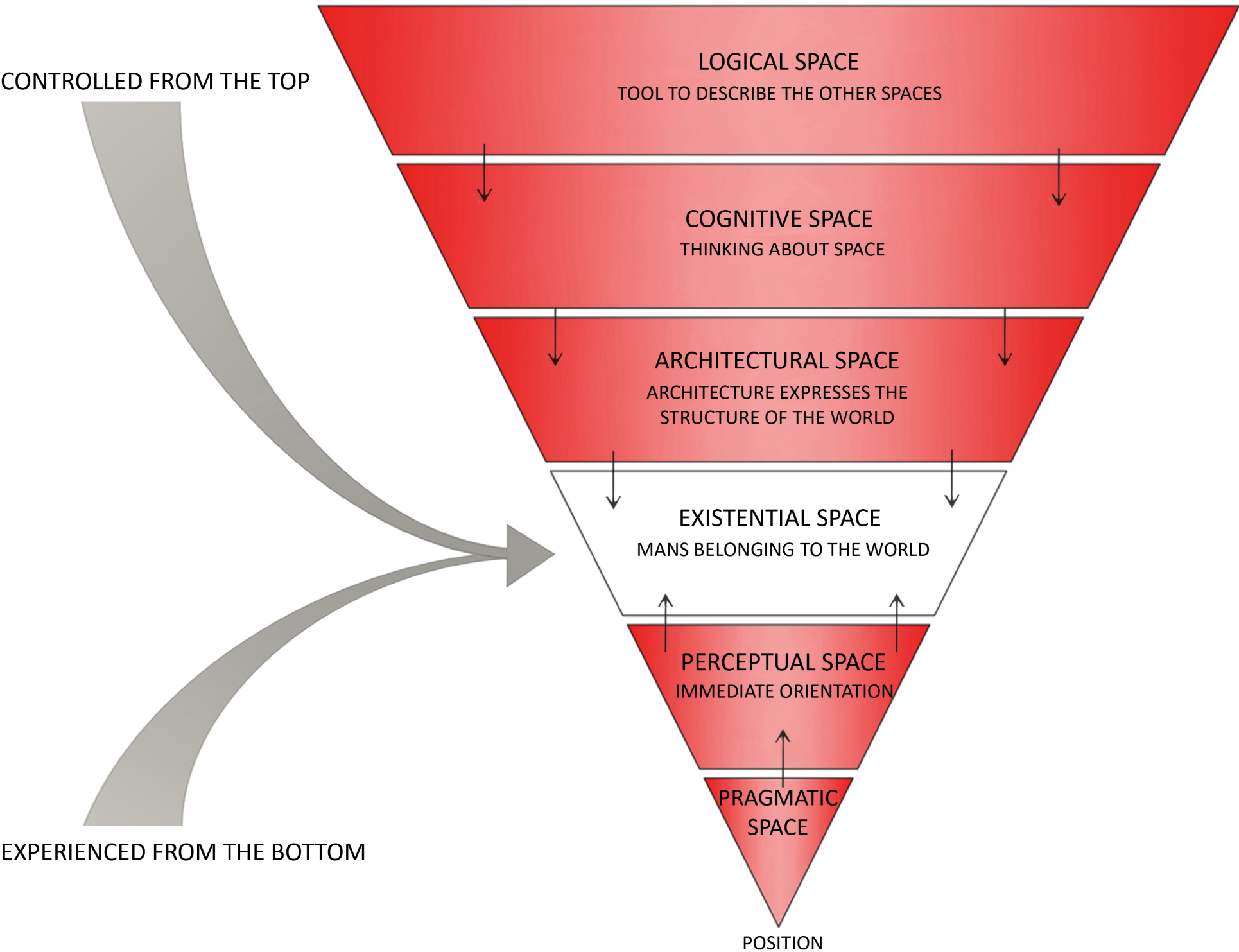


PRAGMATIC SPACE PERCEPTUAL SPACE COGNITIVE SPACE ARCHITECTURAL SPACE EXISTENTIAL SPACE

**“EXISTENTIAL SPACE IS NEVER A TWO DIMENSIONAL PICTORIAL SPACE,  
BUT A LIVED MULTI-SENSORY SPACE SATURATED AND STRUCTURED  
BY MEMORIES AND INTENTIONS.”  
(TREIB, 2009, P. 22)**



Exploring existential space further by understanding how man has structured his environment will help consolidate the thoughts of adaptive reuse into a method for the successful integration of vacant buildings back into the city.



1.8  
EXISTENTIAL SPACE  
MAN'S BEING IN THE WORLD

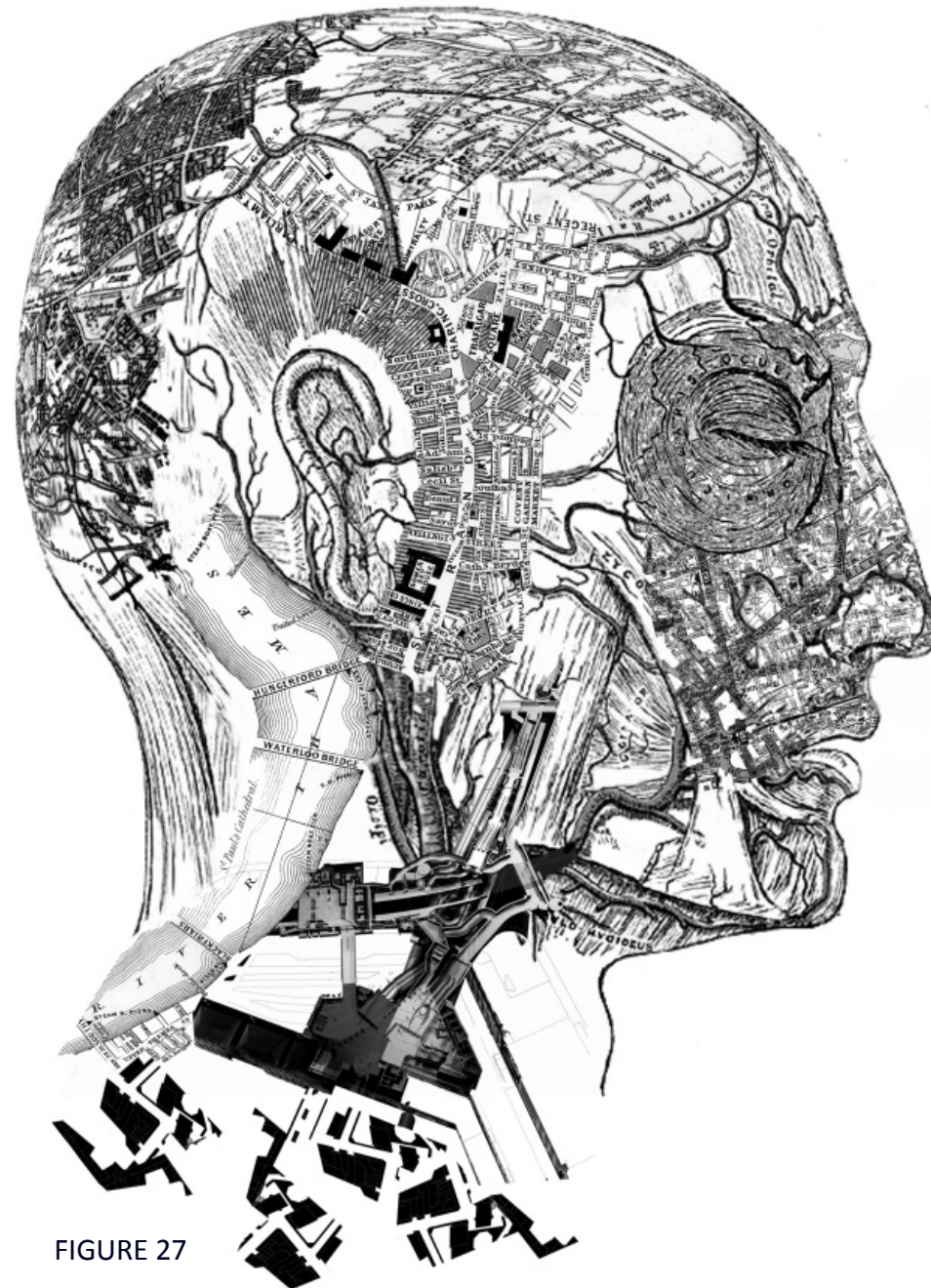


FIGURE 27

Existential space can be viewed as a lived reality which is layered by the abstracted notions of space which belong to the realm of the mind as well as the physical counterpart: the built form. Perceptual space is egocentric and varies between individuals due to our interpretation of sensations through experiences and memories. Existential space is defined as a “relatively stable system of perceptual schemata or ‘image’ of the environment.” (Norberg-Schulz, 1972, p. 17). If our existential space is both abstract and concrete, our existential space can be explored through the eyes of an individual being the abstract notion and then further explored through our cities and architectural spaces which constitute to the concrete or physical aspect which has been arranged and structured through intentions and relationships.



## THE INDIVIDUAL

### MEMORY THROUGH INTERACTION WITH SPACE

J. Piaget's (1955) contribution to the thought about existential space involves how a child grows and constructs a reality through becoming aware of the environment and himself (Norberg-Schulz, 1972, p. 17). Our existential space is "subjectively centred" (Norberg-Schulz, 1972, p. 18) around ourselves and a child learns and interprets objects in space through the ability to recognise and categorise them through the relationship of different activities. A child therefore structures his environment through the memory of stable images in the environment and this allows a child to act according to his intentions. Human memory could be viewed as a process of acquiring knowledge through experiences in time, which is then embodied and stored in our brain, muscles and skin: The eye can touch (Perceptual space). A child needs stable images in the environment in order to learn, if this image of our surroundings are constantly changing the process of learning could become impaired. "The significance of objects in our process of remembering is the main reason why we collect familiar or peculiar objects around us; they expand and reinforce the realm of memories, and eventually, our very sense of self." (Treib, 2009, p. 25) A lived existential space, for example a home, is structured on the basis of values and intentions in order to create meaning for the individual which will allow for 'dwelling' to take place.

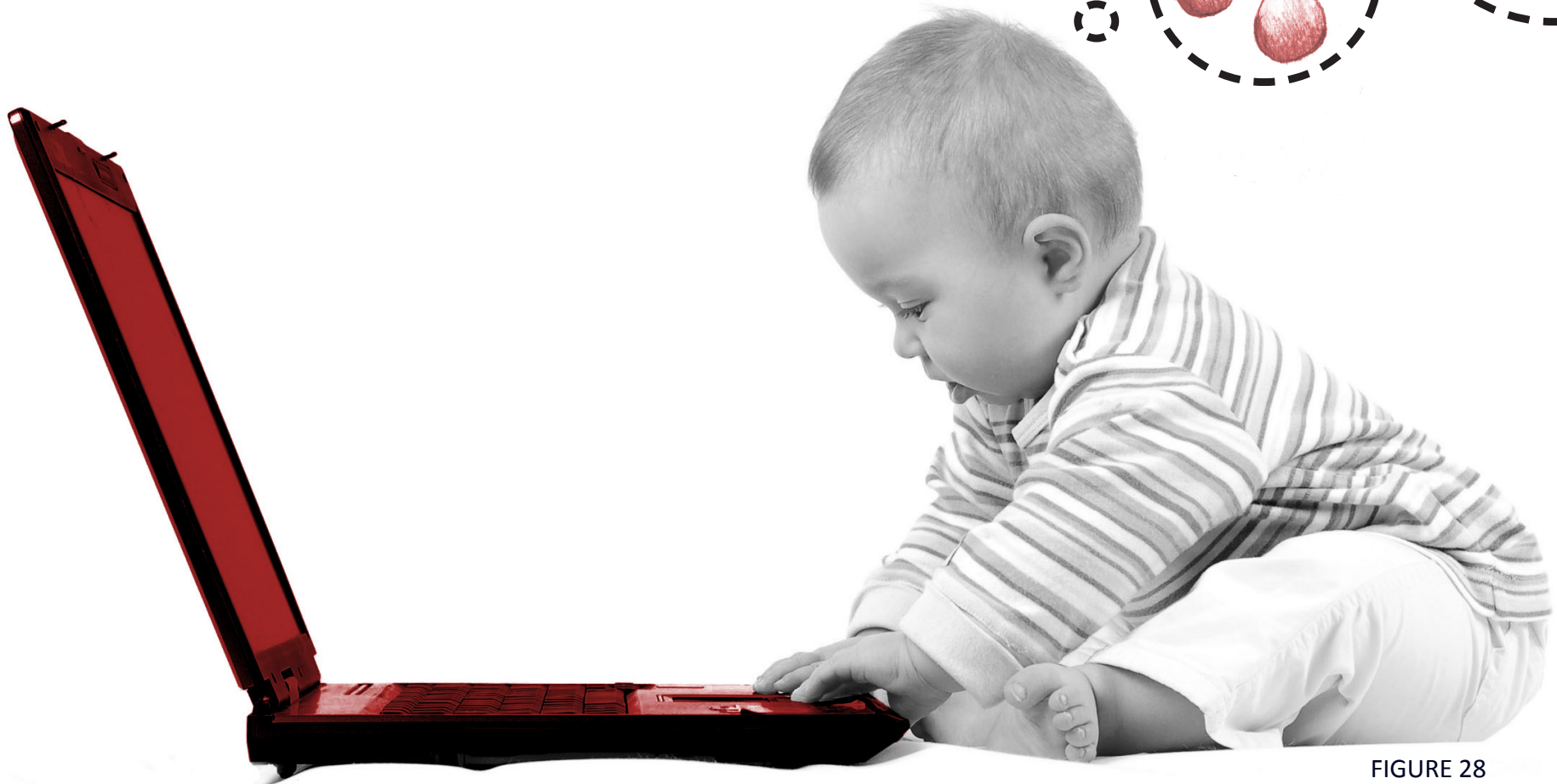
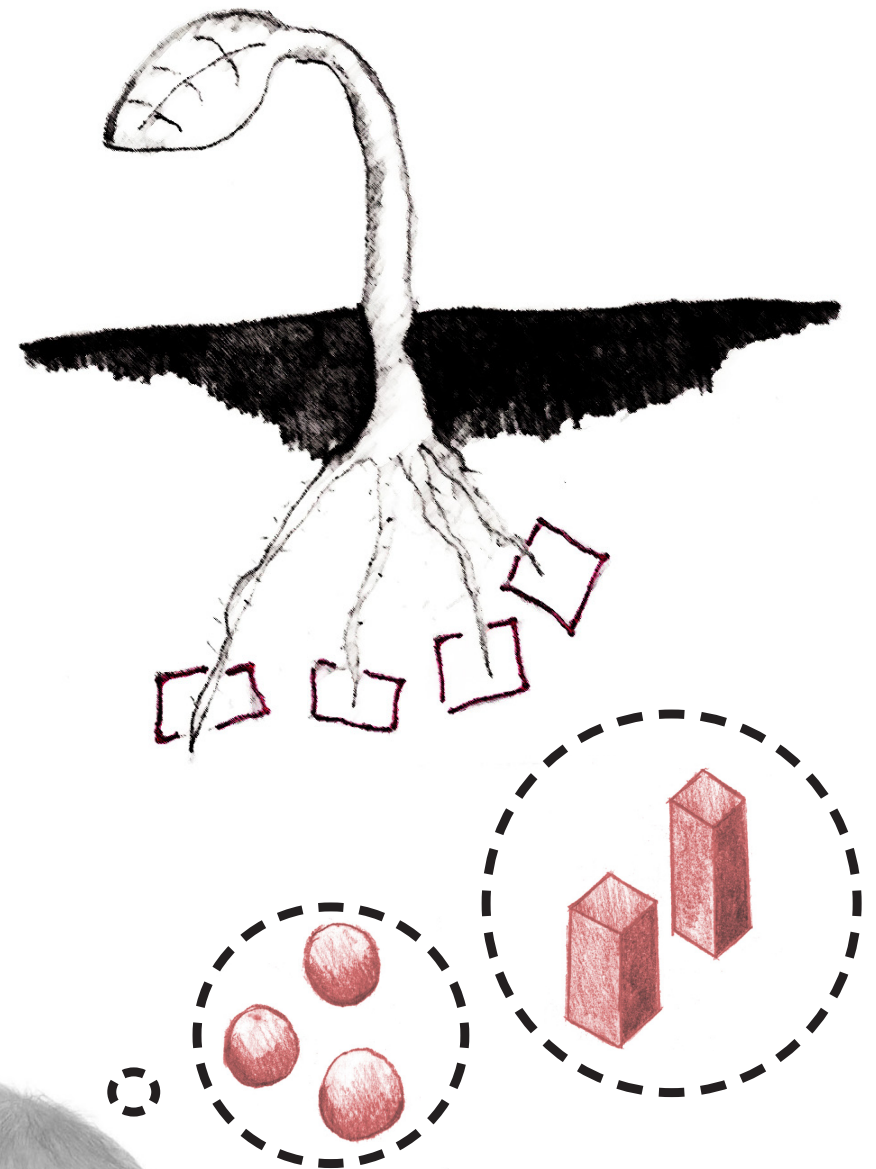


FIGURE 28



## THE CONCEPT OF PLACE

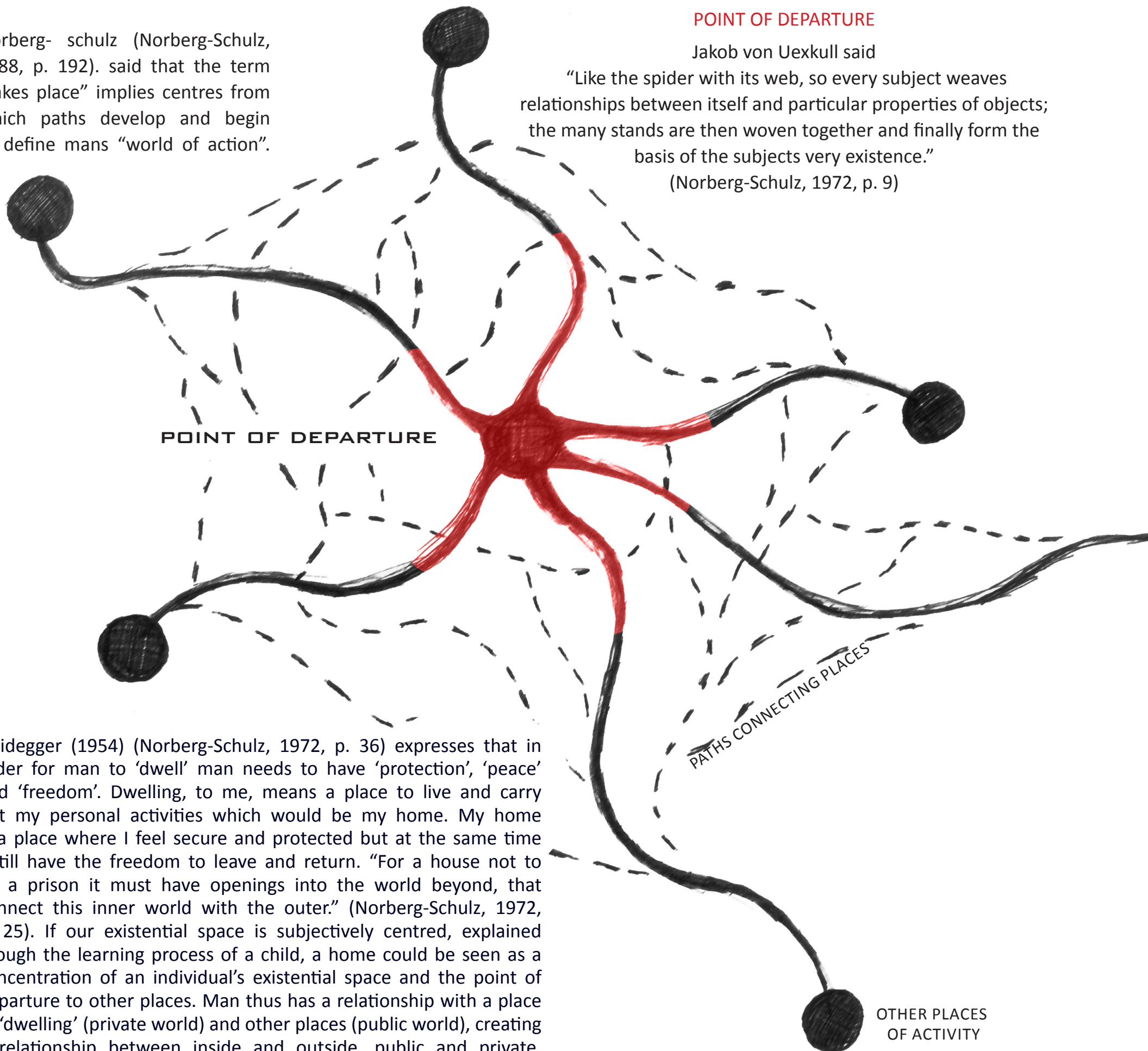
### POINT OF DEPARTURE

Jakob von Uexkull said

“Like the spider with its web, so every subject weaves relationships between itself and particular properties of objects; the many stands are then woven together and finally form the basis of the subjects very existence.”

(Norberg-Schulz, 1972, p. 9)

Norberg- schulz (Norberg-Schulz, 1988, p. 192). said that the term “takes place” implies centres from which paths develop and begin to define mans “world of action”.



Heidegger (1954) (Norberg-Schulz, 1972, p. 36) expresses that in order for man to ‘dwell’ man needs to have ‘protection’, ‘peace’ and ‘freedom’. Dwelling, to me, means a place to live and carry out my personal activities which would be my home. My home is a place where I feel secure and protected but at the same time I still have the freedom to leave and return. “For a house not to be a prison it must have openings into the world beyond, that connect this inner world with the outer.” (Norberg-Schulz, 1972, p. 25). If our existential space is subjectively centred, explained though the learning process of a child, a home could be seen as a concentration of an individual’s existential space and the point of departure to other places. Man thus has a relationship with a place of ‘dwelling’ (private world) and other places (public world), creating a relationship between inside and outside, public and private.

Aldo Van Eyck said

“Places we remember and places we anticipate are mingled in present time. Memory and anticipation in fact, constitute the real perspective of space, giving it depth.”

(Robert, 1989, p. 6)

“There’s no place like home,”

A quote from L. Frank Baum’s 1900 fantasy The Wonderful Wizard of Oz.

“Place, I repeat, is a space that can be remembered.” (Treib, 2009, p. 64). In the book ‘Spatial Recall’ Donlyn Lyndon (Treib, 2009, p. 64) explains that places can be remembered in two ways: through physical structures and through events that take place in a location. Place could be viewed as a space in which an activity is executed or fulfilled which helps create meaning within a space. Places facilitate memory through activities which become embodied in the architecture; therefore places have existential roots, a history. The places that individuals remember and places the collective or public remembers are tied together through common experiences. Heritage buildings are commonly regarded as important places because they facilitate memory through describing our historical roots as well as developing an understanding of time. The book ‘Spatial Recall’ (Treib, 2009, p. 19) explains that without the image of the pyramids our understanding and depth of time will be weaker.

FIGURE 29



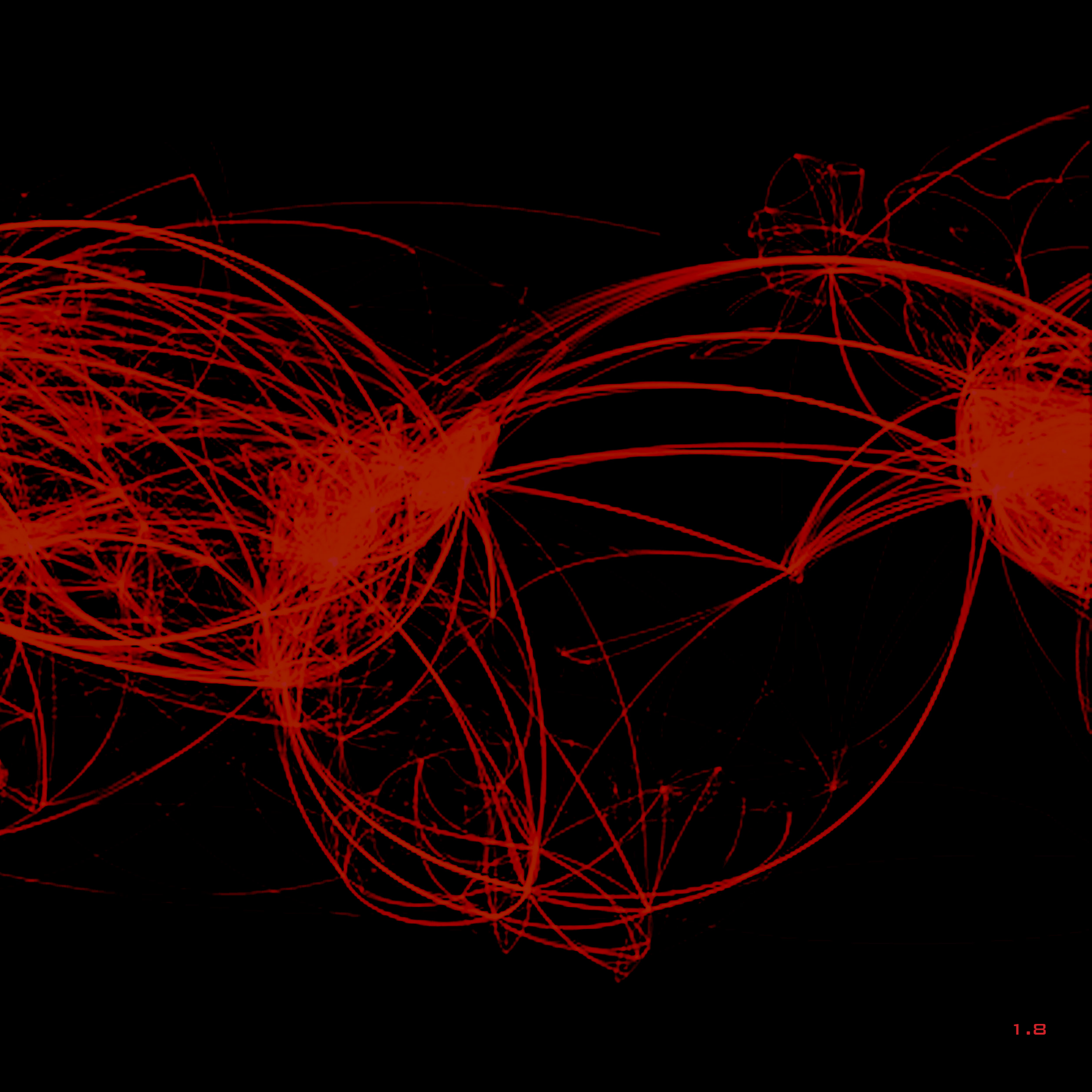


Existential space exists in our minds but still exists regardless of the individual. In the past, the world was thought to be flat and America never existed. By exploring our existential space we realised that we don't live in isolation and that the world is round and located in the growing universe. Man has always explored to find his orientation and relevance within the universe, but through exploration he has structured his world by dreams and ambitions. The world later became interconnected, globalised and structured into countries, cities and suburbs with homes: places for dwelling. Our world has become an interconnected social reality.

FIGURE 30









## PATHS AND PLACES

### A STRUCTURED ENVIRONMENT

“Character of place must be understood as a product of its interactions with the surroundings; that a path without a goal becomes rather meaningless”  
(Norberg-Schulz, 1972, p. 24)

Place can imply inside and outside and our existential space is comprised of many places. As we get older we associate with different places for example work, shops, and places of social interaction. Man needs a place to dwell, at the same time needs to interact with the surroundings – ‘Freedom’. Like a child creating relationships with objects in space, we create relationships between different places and a place can’t be understood in isolation, as they will have no meaning (Norberg-Schulz, 1972, p. 20). Space has a social aspect as our private spaces become a part of the whole and due to that nature of man needing to explore and move between places, our environment became structured through paths (Norberg-Schulz, 1972, p. 21).

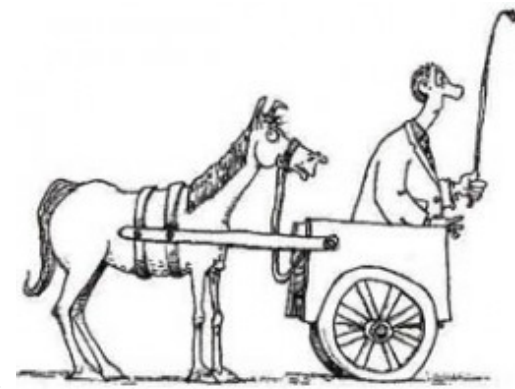
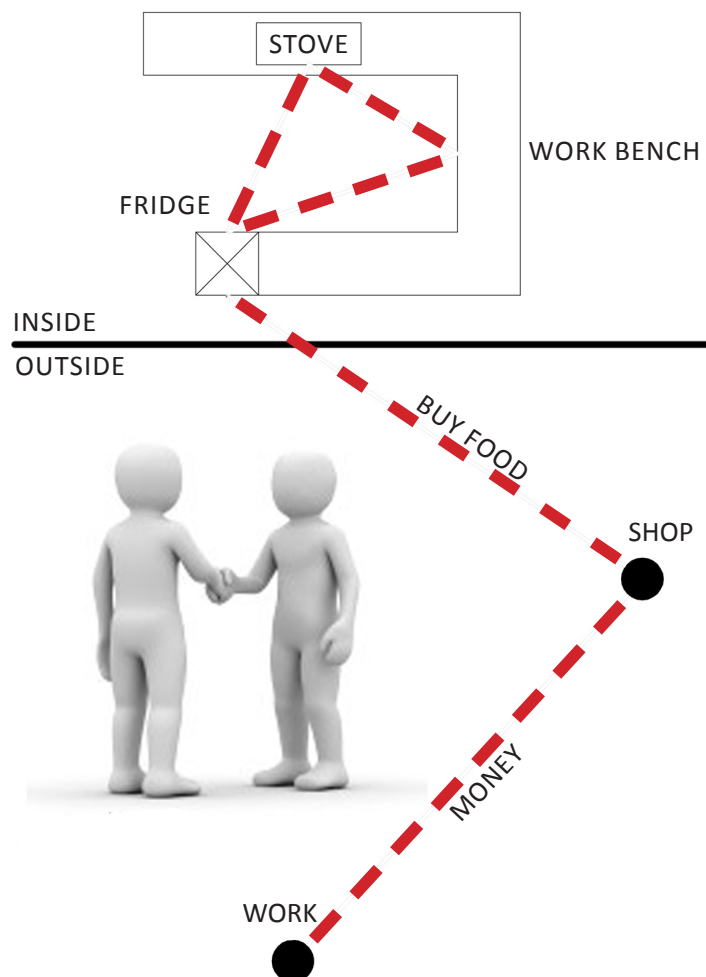


FIGURE 31

Norberg-Schulz raises the issue of mobility. Without a place of departure and retirement, we become lost and disorientated. Heidegger also argues that mobility would not be possible if we didn't know where we going (Norberg-Schulz, 1972, p. 35).



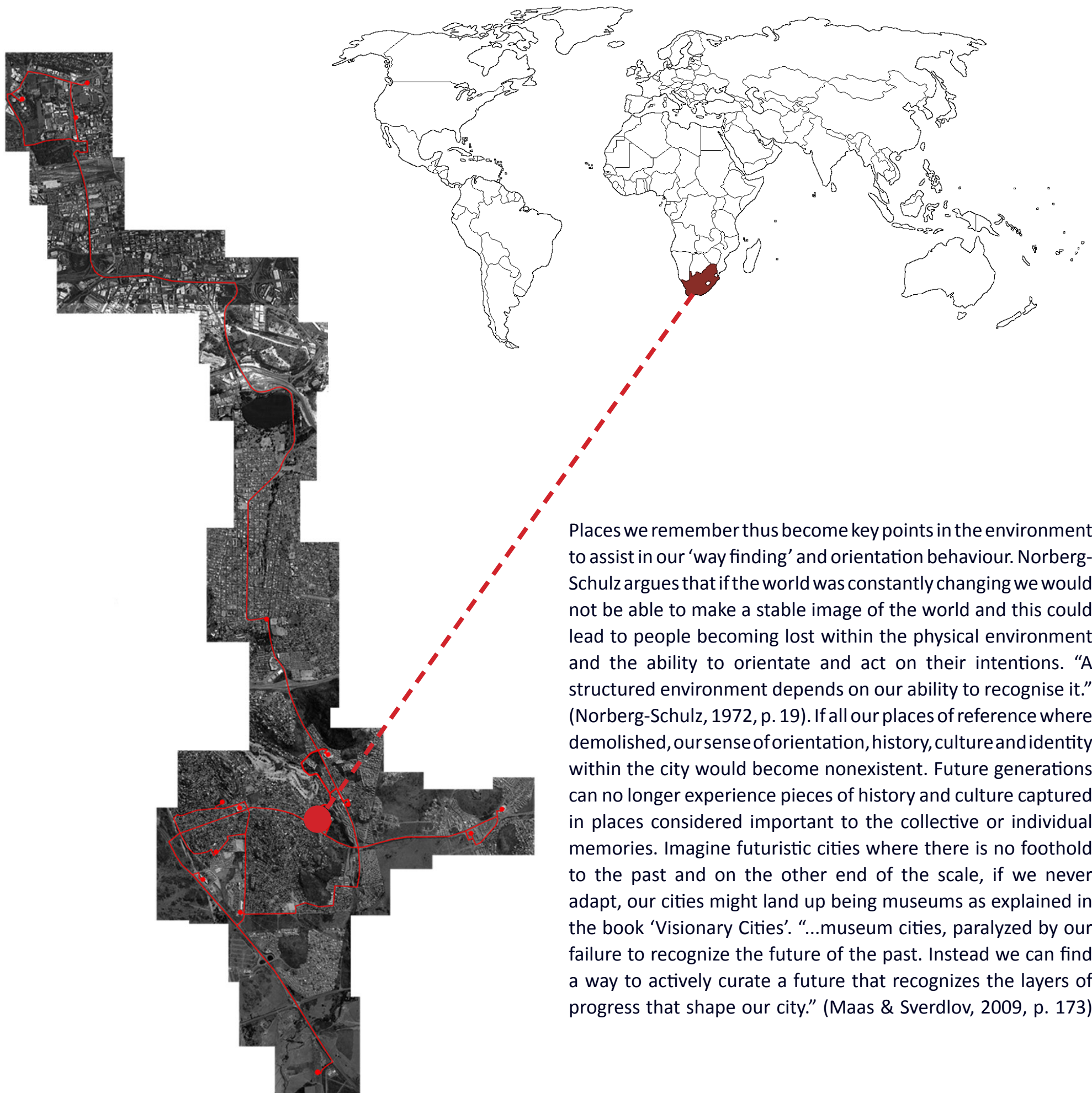
FIGURE 32

ORIENTATION BECOMES DIFFICULT WITHOUT A POINT OF REFERENCE



FIGURE 33

IN THE FUTURE OF OUR CITY?



Places we remember thus become key points in the environment to assist in our 'way finding' and orientation behaviour. Norberg-Schulz argues that if the world was constantly changing we would not be able to make a stable image of the world and this could lead to people becoming lost within the physical environment and the ability to orientate and act on their intentions. "A structured environment depends on our ability to recognise it." (Norberg-Schulz, 1972, p. 19). If all our places of reference were demolished, our sense of orientation, history, culture and identity within the city would become nonexistent. Future generations can no longer experience pieces of history and culture captured in places considered important to the collective or individual memories. Imagine futuristic cities where there is no foothold to the past and on the other end of the scale, if we never adapt, our cities might land up being museums as explained in the book 'Visionary Cities'. "...museum cities, paralyzed by our failure to recognize the future of the past. Instead we can find a way to actively curate a future that recognizes the layers of progress that shape our city." (Maas & Sverdlov, 2009, p. 173)



# ARCHITECTURE & PLACE

## MORPHOLOGY

“Morphology asks the question:  
How do buildings stand, rise, extend, open and close”  
(Norberg-Schulz, 1988, p. 195).

In the book ‘meaning and place’ Norberg-Schulz explains that morphology has to do with the creation of architectural forms which communicate with the environment, “Formal articulation” (Norberg-Schulz, 1988, p. 195). The character of an architectural form is dependent on how it sits within the environment as Norberg-Schulz describes between the earth and sky. Morphology also has to do with the communication of boundaries as a means to give the architectural form an environmental character thus creating a strong relationship between the inside and outside.

The character of place could therefore be defined by the character of the environment in which it inhabits. The environment and the building or place therefore needs to be in a constant dialog with one another. Place can’t be understood in isolation much like how man orientates within the world, the layers are impossible to be experienced individually but rather they are experienced simultaneously. All the layers together constitute the real character of place. The form should communicate with the exterior advising people on the buildings function and guiding people to the entrance making it easier for man to carry out his intentions. Imagine trying to understand the city if all the buildings looked exactly the same and buildings never communicated their intentions and activities with the surroundings. The city would become a very scary place. Personally, I would never know where to go, disorientated and lost.

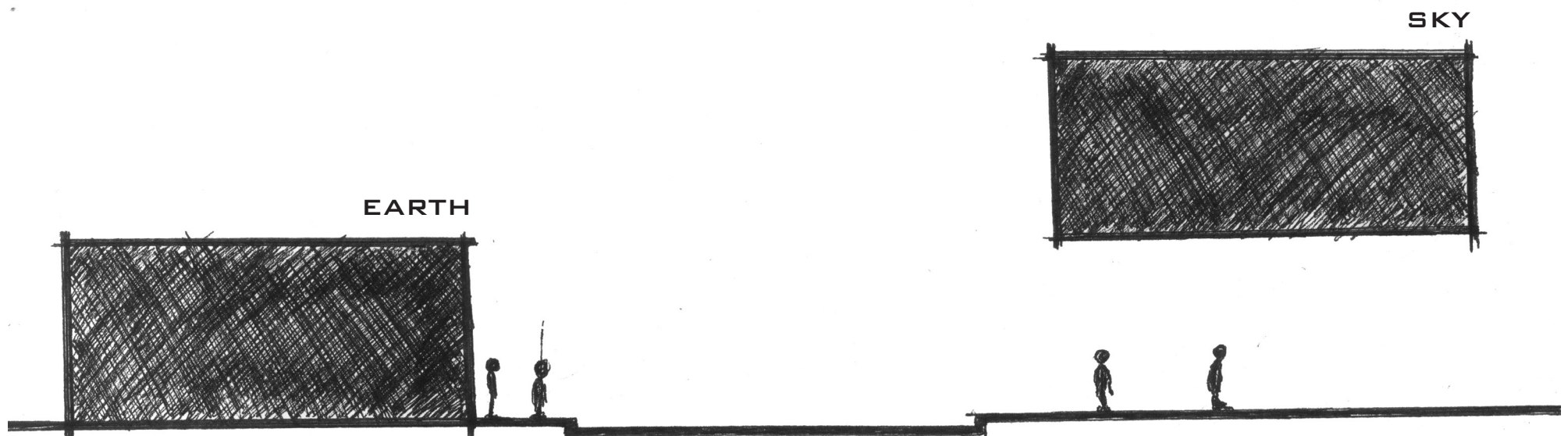
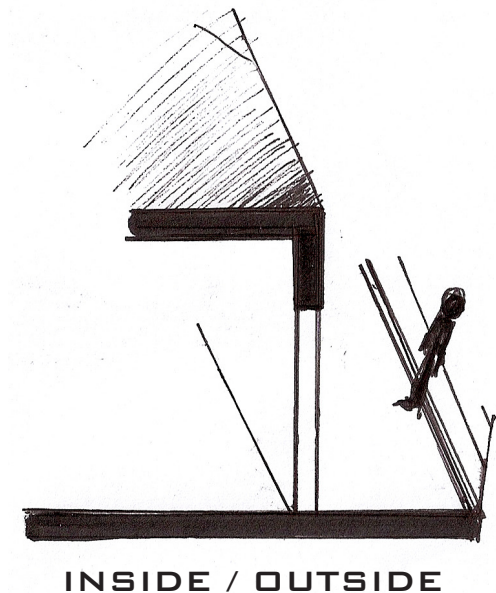
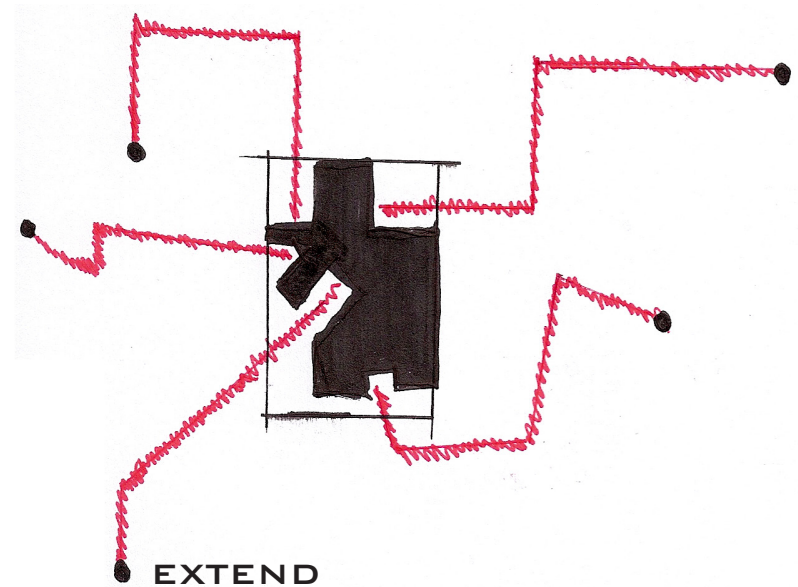






FIGURE 34





FIGURE 35

# EXISTENTIAL SPACE

## THE PALIMPSEST

**“OUR EXISTENTIAL SPACE AND LIVED REALITY IS A THICK, LAYERED AND  
CONSTANTLY OSCILLATING CONDITION.”  
(TREIB, 2009, P. 17)**

Our Existential space has different levels – objects, individuals, places, cities, planet Earth and finally your universe. All these levels have had a direct influence on our existential space. First we learn and orientate ourselves through the relationships between our body and the environment (Pragmatic space) which consists of movable and stationary objects. Space is structured within our minds (cognitive + perceptual space) through dreams, sensations, experiences and intentions. Architecture (expressive space / aesthetic space) and the environment becomes the structure and character of a place which accommodates our activities. Paths create relationships between places which begin to express the structure of our cities and world (Existential space). This is done over time so our existential space can be seen as a palimpsest, layering by old and new buildings and structured by the collective's and individual's dreams of that era, to create meaning in their lives. Existential space can be described as the totality of all the different space concepts interacting with each other and several overlapping systems such as places and paths, which over time bind our city, creating a stronger identity.

**THE CITY IS A PALIMPSEST WITH A STRUCTURE**

**ORIENTATION**

**MEMORY**

**RELATIONSHIPS**

**INTENTIONS**



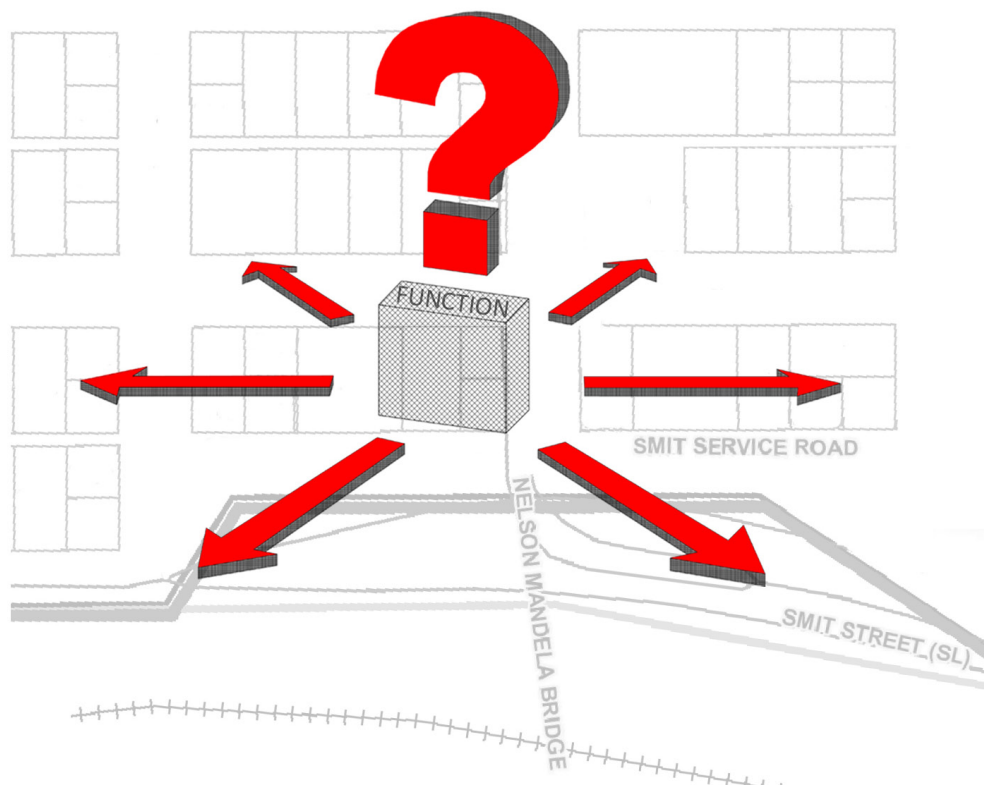
# ADAPTIVE REUSE & THE CONCEPTS OF SPACE IN DESIGN

## INTERGRATING DEAD ARCHITECTURAL SPACE & BACK INTO THE ENVIRONMENT

When thinking about space, we start to structure it through relationships which are based on logical sequences helping in our orientation. The way spaces in a building interconnect should facilitate memory and allow for an individual to act based on his intentions making the space become a meaningful place.

Vacant buildings are without an activity or purpose and are considered dead. A vacant building is not considered a place within our city due to the fact that a place can only be seen as a destination, where an activity is carried out. Vacant buildings have rich histories but become isolated because they have lost their social aspects within the environment. Vacant buildings need a new function with an intrinsic relationship with place and the surrounding context. The correct activities and intentions for the area will allow and facilitate orientation within the greater whole. If vacant buildings are demolished over time, man's existential foothold within the environment would become weakened as we would have no understanding of time. Preserving a building has a huge importance for the identity of the city and our orientation relies on our ability to remember places.

We have explored the concept that our cities have become palimpsests due to the layering of dreams, activities and paths through time; this layering is created by the changing 'concepts of space'. We know that architecture facilitates and embodies memory of a past time and a place can be seen as a part of the greater art work or palimpsest. Designing adaptive reuse buildings as a palimpsest by acknowledging the old will mimic our cities' development, creating extra layers for a future built on the past. The history of the existing building should not be completely removed as there must be a relationship between the old building and the future history, in order for memories to be triggered. A harmonious balance between the new and old to activate the energy of both can be explored by understanding the history and past function of the building.



The statement, "Form follows function", depends on the compatibility of the existing building and the new function, but there is a relationship with inside and outside. In order for the building to be understood in its context there has to be a relationship between the architecture and the surrounding context. The building must have a social aspect in order to be understood as a fragment in the whole. Architects have created buildings that use metaphors to help people remember place as well as signage so people can orientate themselves according to the functions and activities happening within the area. Form must follow function in order for orientation within the city to take place. Morphology could be the answer to guiding the form of the building so that it may communicate with the surroundings. Adapted buildings which do not describe the new function could be problematic for man's orientation within the city.





FIGURE 36



## THEORETICAL CONCLUSION

SHOULD WE DEMOLISH TO MAKE SPACE FOR THE NEW OR  
SHOULD WE ADAPT?

The theory of space has identified the reasons why adapting buildings is a better option as compared to demolition. Adaptive reuse helps retain memory, identity and orientation within mans environment. The design tool / drivers for adaptive reuse applied to vacant buildings will use the four key words which have been used to structure the environment and have become the key principles to the concepts of space.

MEMORY + ORIENTATION + RELATIONSHIPS + INTENTIONS

These four key words will be used throughout the design phase, which will help create an adaptive reuse building that responds to the surroundings and becomes a palimpsest which enhances people's spatial experience. These four key words could possibly provide clues as to how a methodology for such interventions could be developed.

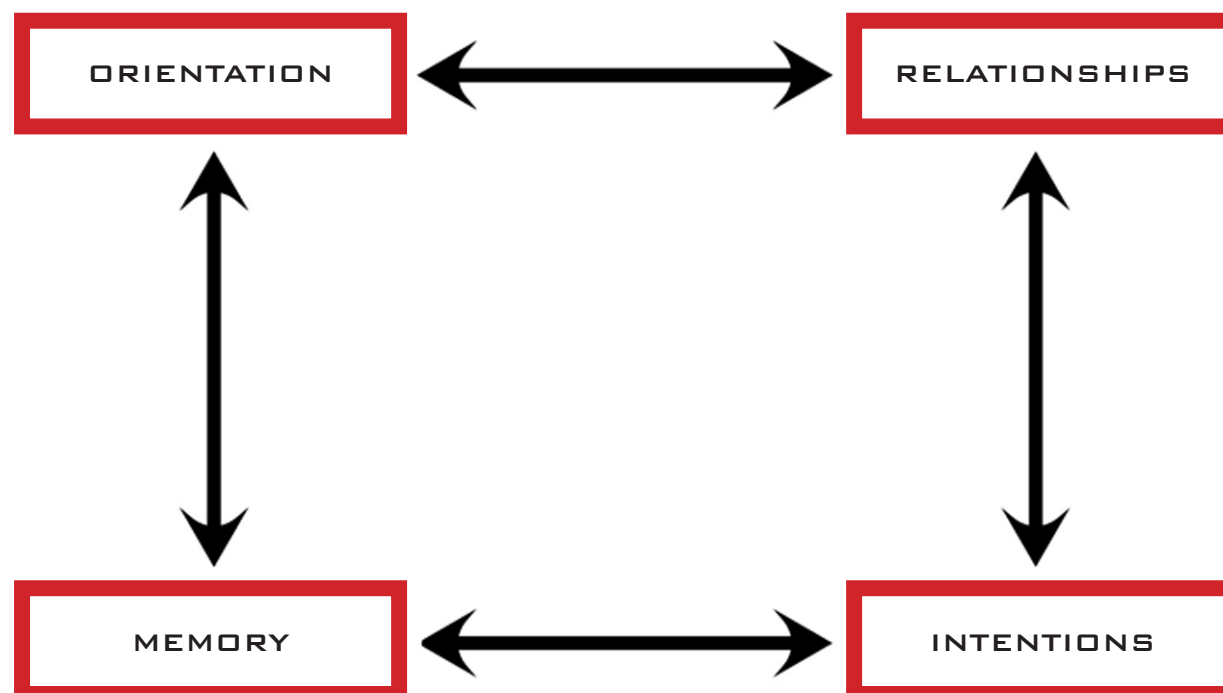




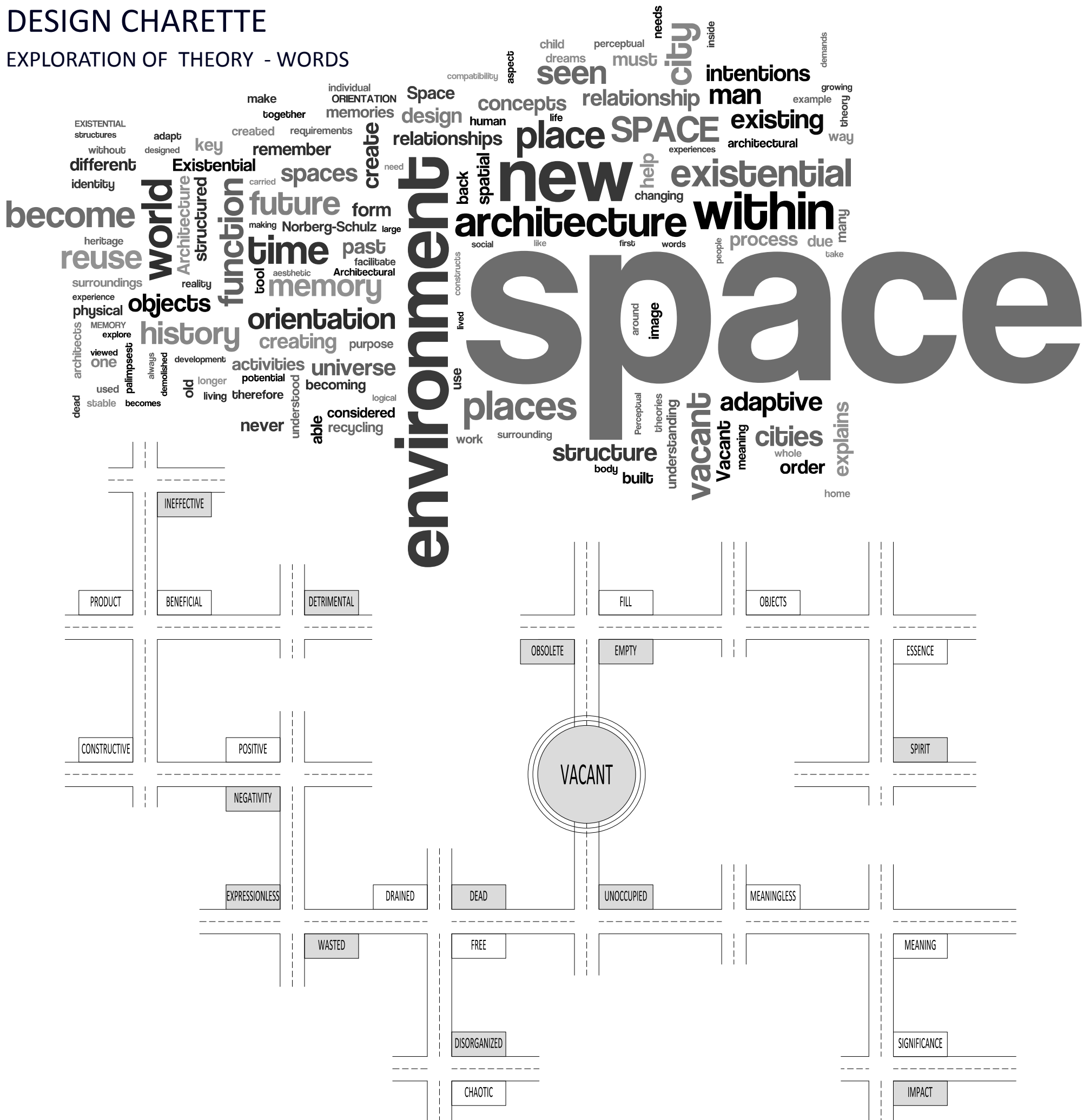


FIGURE 37



# DESIGN CHARETTE

## EXPLORATION OF THEORY - WORDS

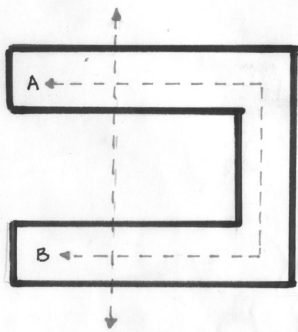
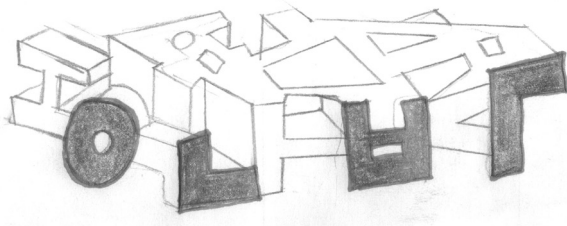
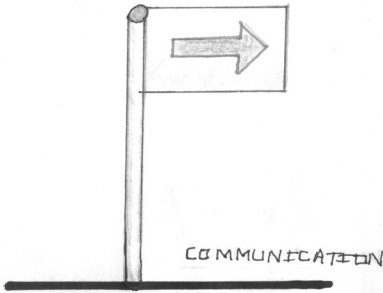
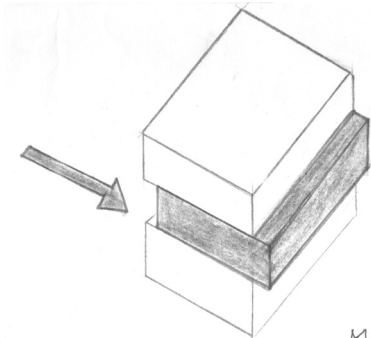
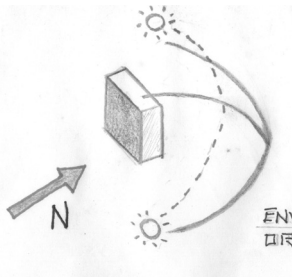
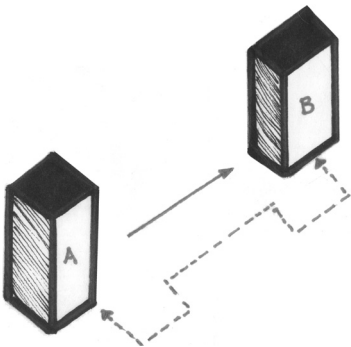
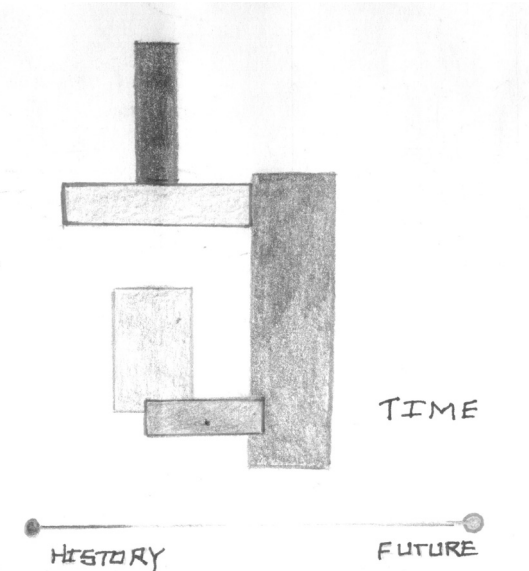
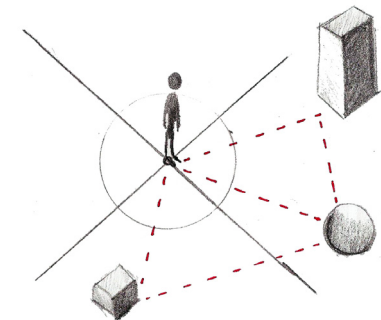
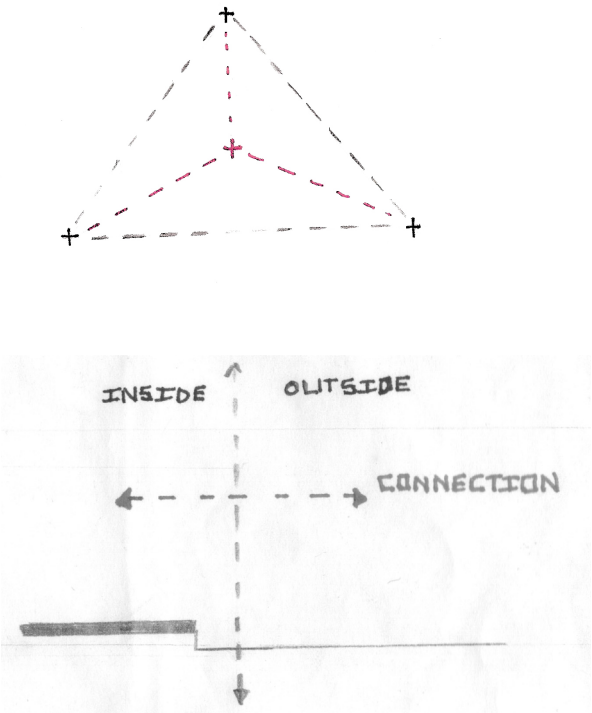
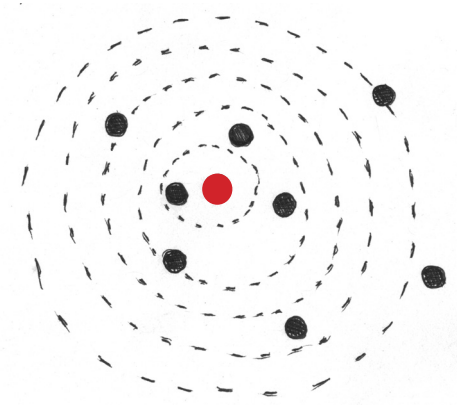
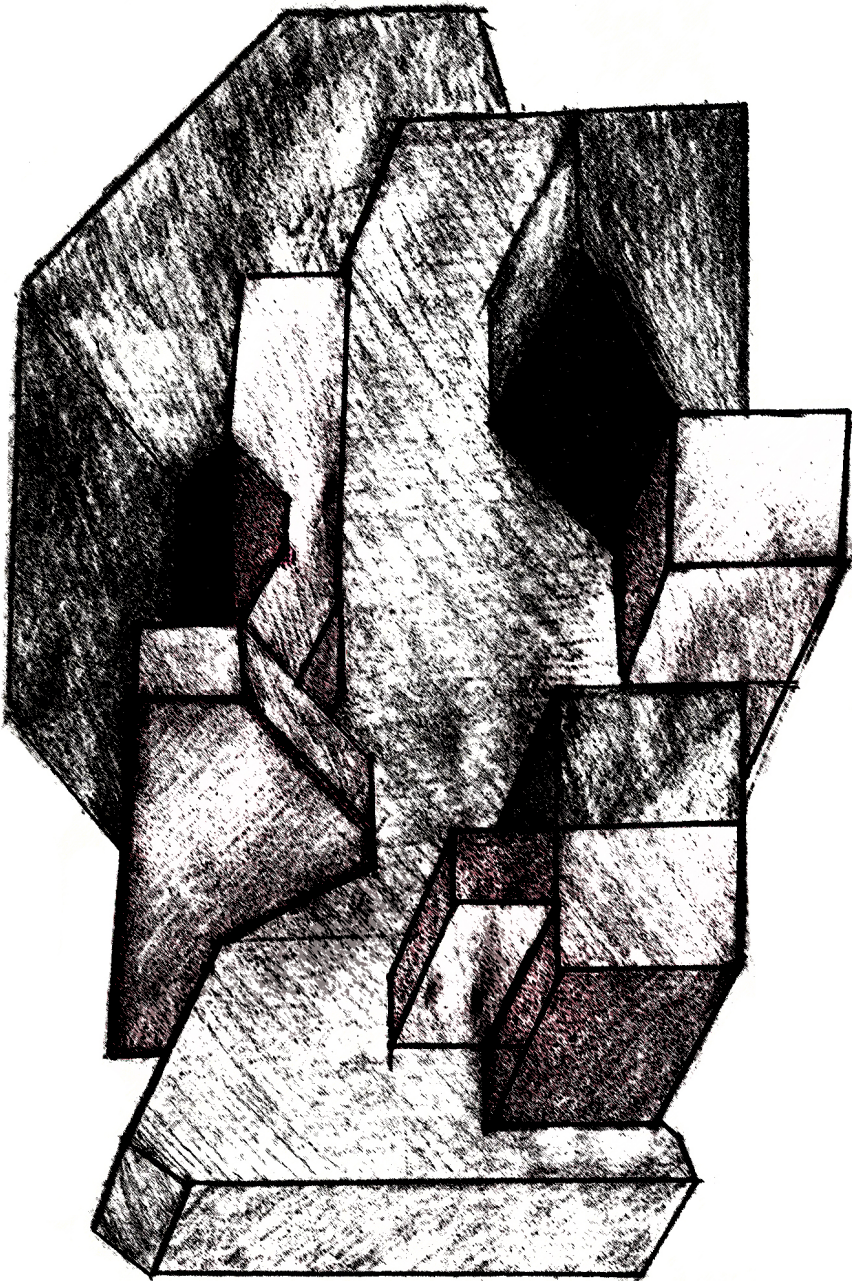
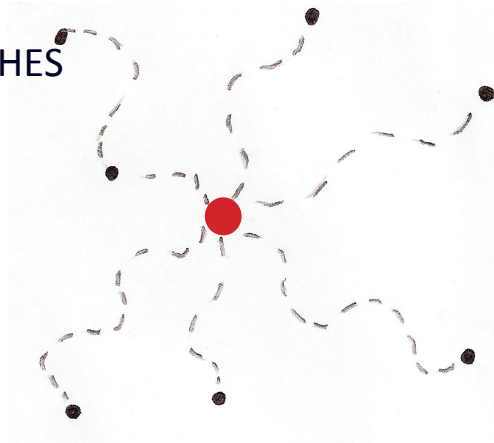
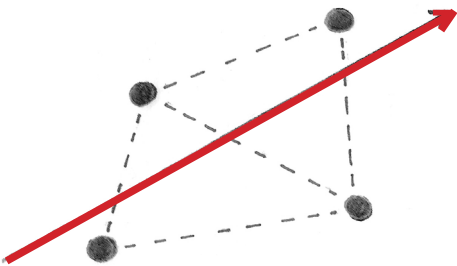






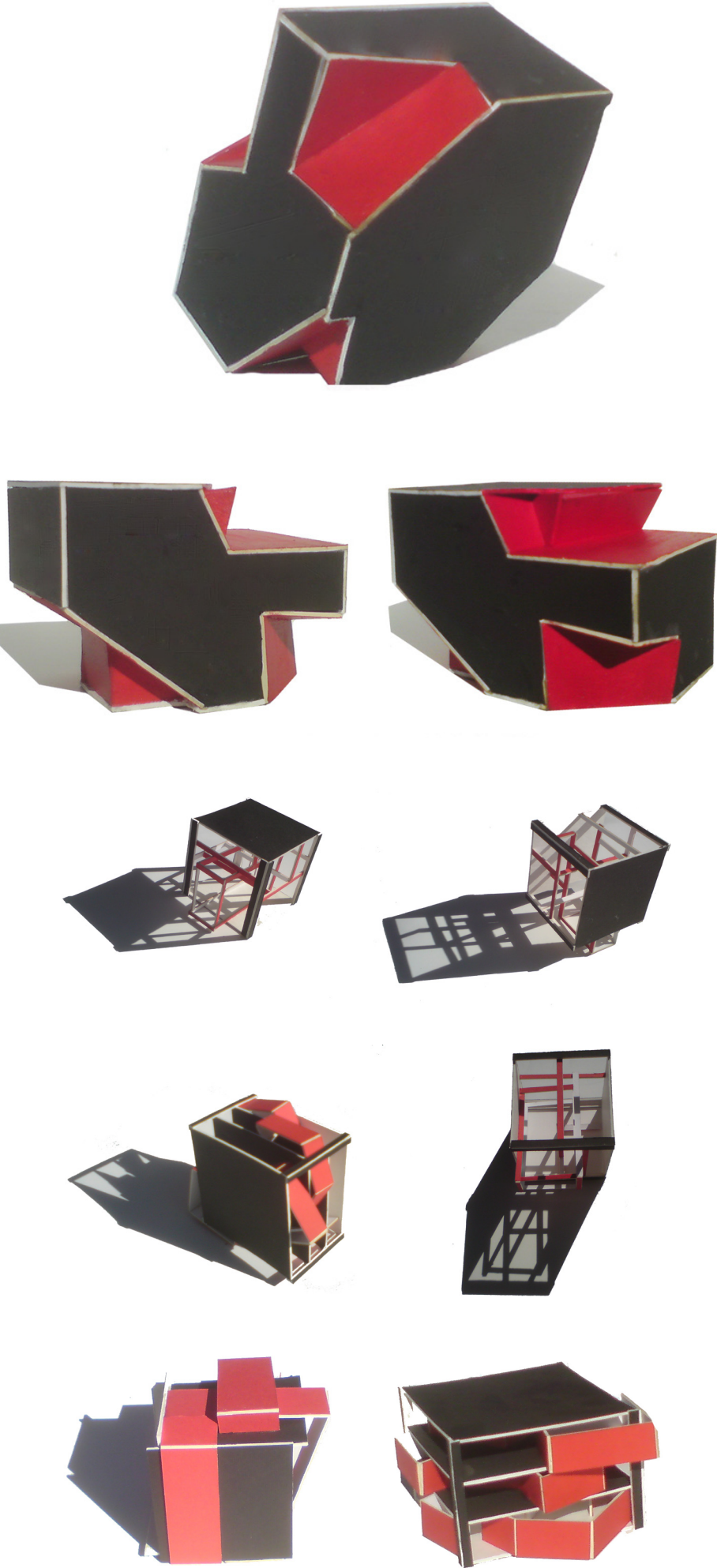
DESIGN CHARETTE

EXPLORATION OF THEORY - SKETCHES

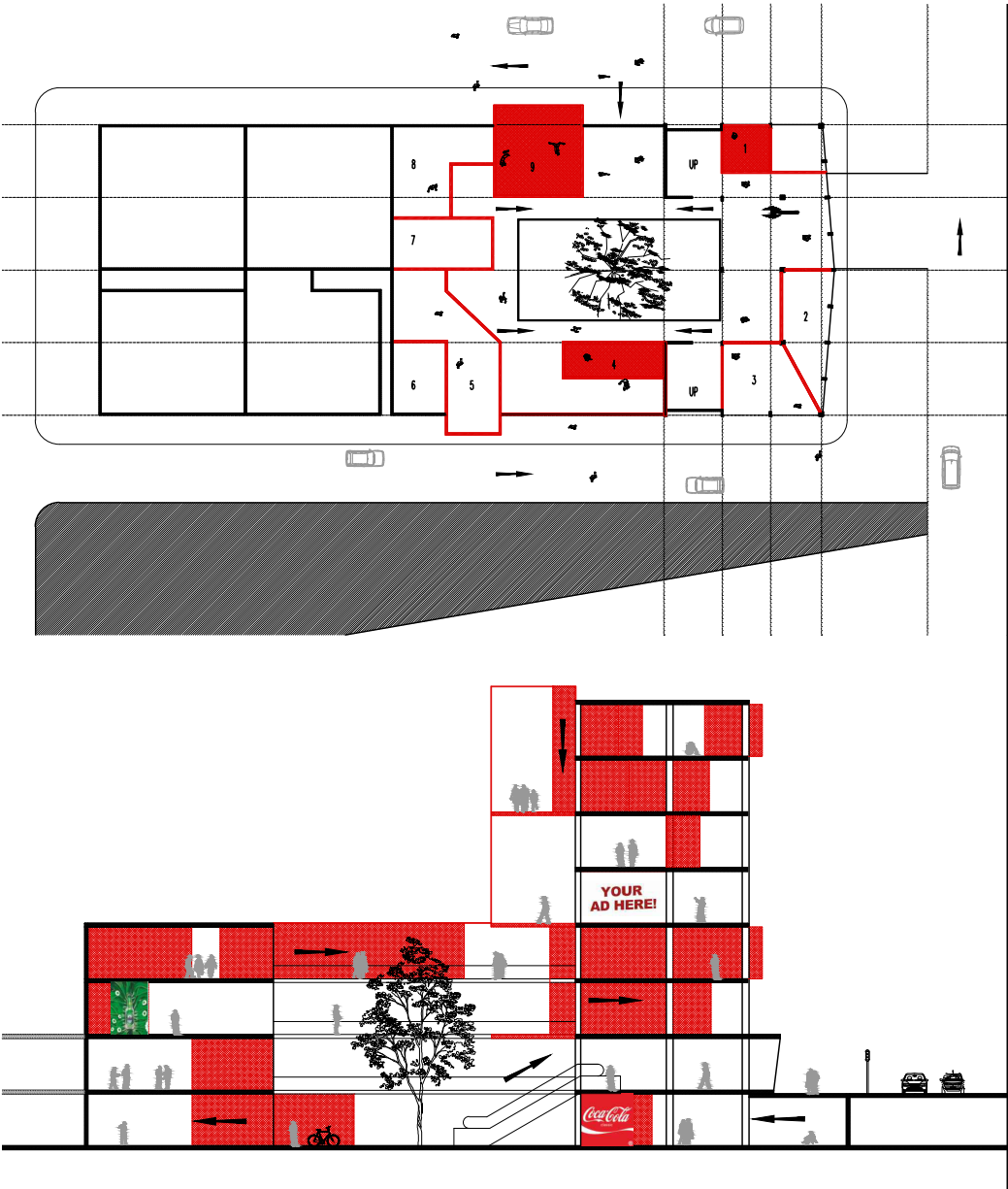




EXPLORATION OF THEORY - MODELS



EXPLORATION OF THEORY - 1 DAY DESIGN





# CASE STUDIES 2.0

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THEORY IN PRACTICE

>> 52 - 57

## 2.1. CARPENTER CENTRE

LE CORBUSIER

## 2.2. WERDMULLER CENTRE

ROELOF UYTENBOGAARDT

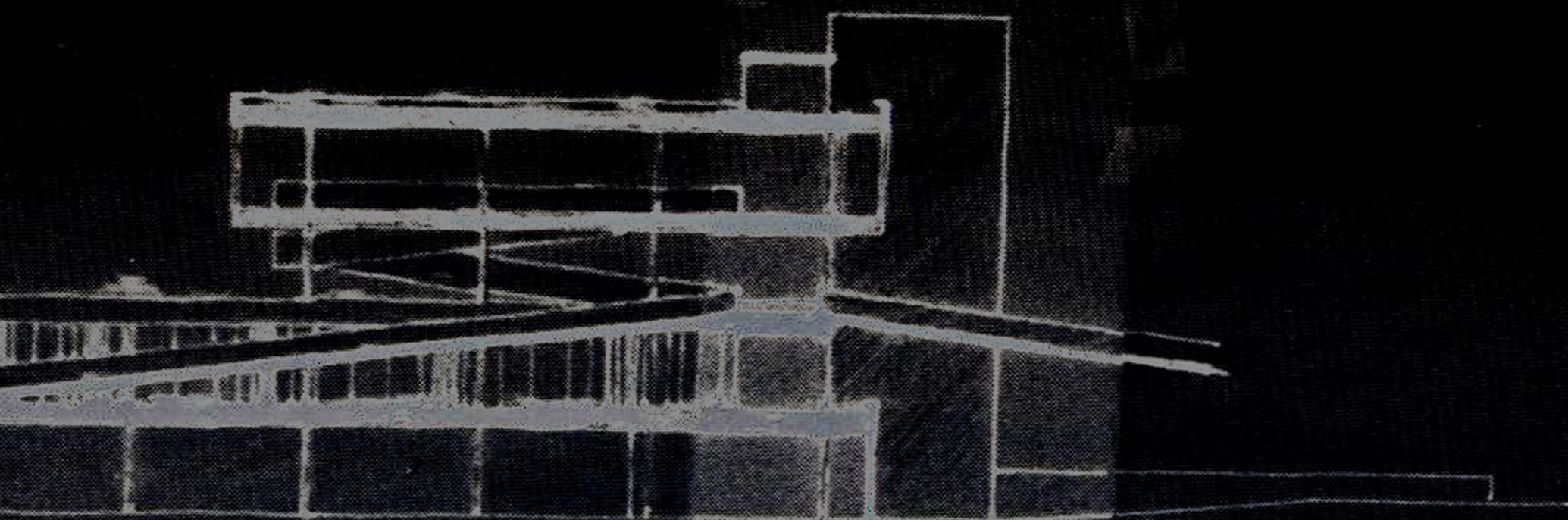
## 2.3. DUTCH EMBASSY BERLIN

REM KOOLHAAS



FIGURE 38





Coupe Longitudinal  
Ech 1/200

Grandes salles

PAT II

Juillet 1960

(16)

FONDATION LE CORBUSIER



2.1  
CARPENTER CENTRE FOR THE VISUAL ARTS  
COMPLETED 1963  
LE CORBUSIER

LOCATION : UNITED STATES - BOSTON, TWO MILES WEST OF BOSTON’S CITY CENTRE, TOWN CAMBRIDGE MASSACHUSETTS



FIGURE 39

“The ramp dramatically advertises itself as a bridge with the outside world.” (Selker, 1978, p. 16)

The site was once the universities central route, a public meeting place filled with memories from past events. The buildings form was generated through the relationships of the site, “The square is set strikingly at the angle to the grid of surrounding trees and buildings, and its sides align approximately with the compass points.” (Selker, 1978, p. 11) The buildings ramp connects the two opposite roads allowing the universities central route to be maintained as well as blurring the outside world with the inner more private world. The ramp reveals the inner functions of the building, aiding in man’s orientation of the different components that comprise the Carpenter Centre.

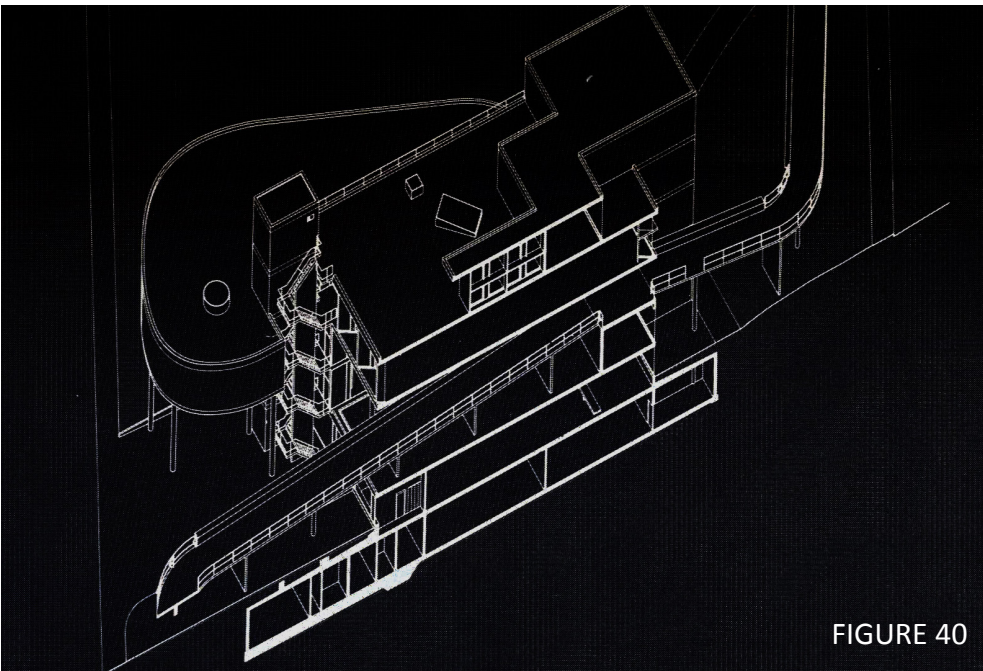


FIGURE 40



FIGURE 41



# WERDMULLER SHOPPING CENTRE

COMPLETED 1974

ROELOF UYTENBOGAARDT



FIGURE 42



SAVE THE WERMULLER CENTRE FROM  
DEMOLITION

LOCATION: CLAREMONT, CAPE TOWN

FIGURE 43

Roelof Uytenbogaardt, born in Cape Town, South Africa, 23 June 1933, was an architect, urban planner and a teacher. Roelf studied and graduated from the University of Cape Town in 1956. He studied alongside Louis Khan in Pennsylvania and taught at Harvard University. Roelf returned to South Africa in 1963 where he designed the Werdmuller Centre in Claremont Cape town (Anom, Answers Corporation, 2011). The Werdmuller Centre is one of the first modernism buildings in South Africa from that era which gives the building an historical and cultural value as well as an architectural educational perspective. The building is currently under debate as to whether it should be demolished or not. The debate brought a major amount of attention to the Werdmuller Centre worldwide. South Africa created a great architect and now wants to demolish one of his most influential buildings. Considering the building plays an important part in the history of modernism in South Africa, what could the reasoning be for the demolition of the Werdmuller Centre?

The building was designed for lower income retail and shopping which responded to the surrounding needs of the people, but the building has failed in terms of keeping up with the demands of making large amounts of profit (Pop, Marks, Hall, & Barac, 2008). The building has been marked for demolition because the site could be used to create a new shopping centre which will be more profitable but is that really an excuse for demolition. Werdmuller Centre is one of the many shopping centres in Claremont, why can't the building be given an extended life through a new function? The issue is that the building has become dilapidated and this has created negative perceptions about the space but is that just an issue of poor maintenance. Should the building take on a new function other than that of retail, the building could surpass the expectations perceived and become a gold mine as well as a place of culture and education. The building may be a failure as a shopping centre but the building is irreplaceable as it is unique and a new shopping centre will never stand up to old buildings significance. Adaptive Reuse may be the only answer to the problem that faces the Werdmuller Centre, the buildings life may be more successful in its second life than its first.



2.3  
**DUTCH EMBASSY BERLIN**  
COMPLETED 2003  
REM KOOLHAAS



FIGURE 44

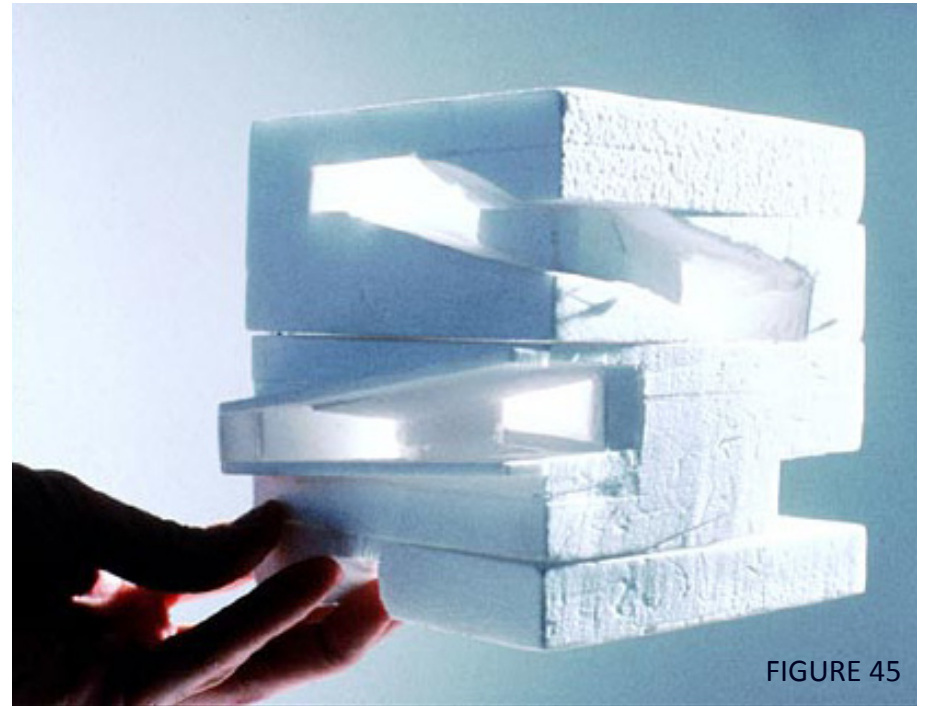


FIGURE 45

The Dutch embassy (Kiser, 2008) was designed by Rem Koolhaas and his architectural studio OMA from the year 2000 - 2004. The building is an L shaped structure which surrounds a cube creating a courtyard which opens up towards the river and the park. The building is located in one of the oldest parts of Berlin and so was designed out of concrete and aluminium in order to create the juxtaposition between new and old. The part of the building that interested me the most was the movement trajectory that moves from the ground floor until the roof. The trajectory carves the cube on the way up leaving spaces over for the functions but at the same time the trajectory captures views of the different landmarks in the environment being: the river Spree and park, the TV tower and the wall of the old embassy residence (Anom, Dutch Embassy Berlin : Architecture Information, 2007). This shapes the building on the outside creating a strong communication between the inside and outside. This is exactly what morphology is concerned with, the creation of the character of place and architectural form by communicating with the environment.





FIGURE 46



FIGURE 48



FIGURE 47

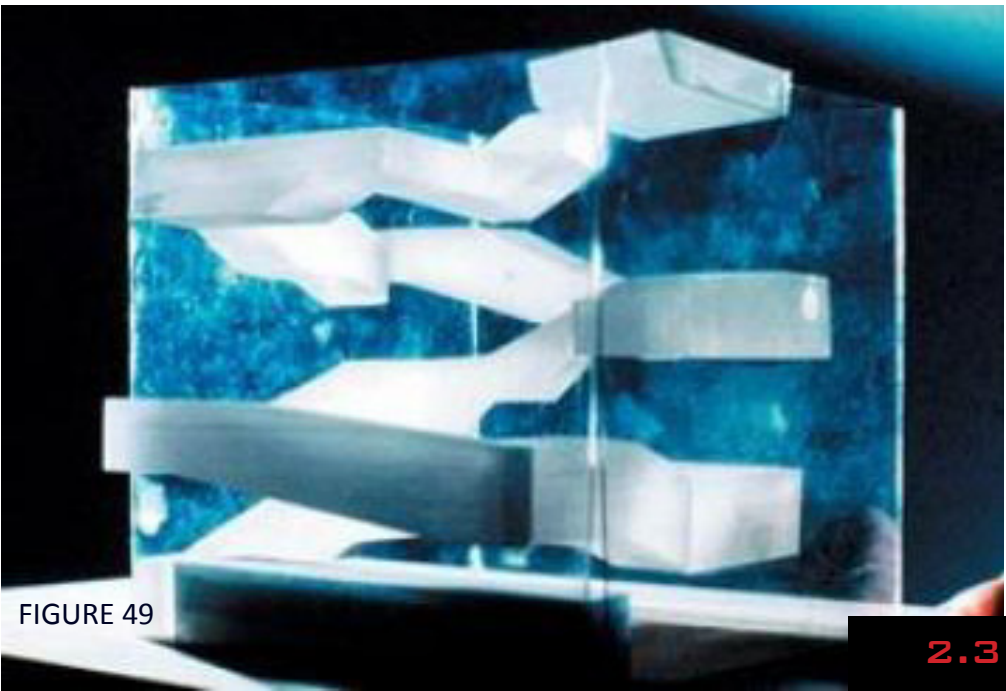


FIGURE 49



# THE BRIEF 3.0

GOALS & HEADLINES >> 58 - 61

## 3.1. THE PROJECT BRIEF

THE REQUIREMENTS

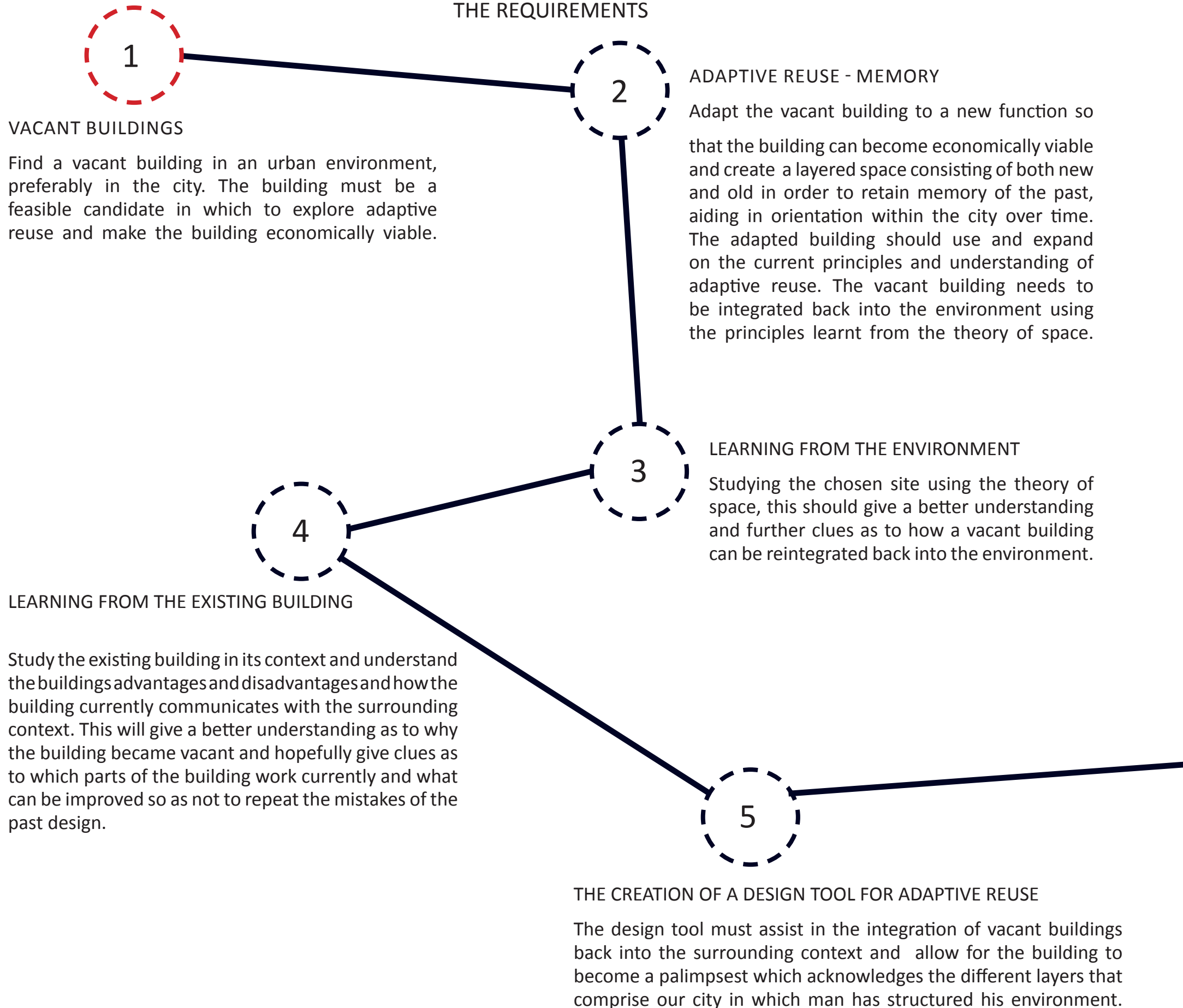


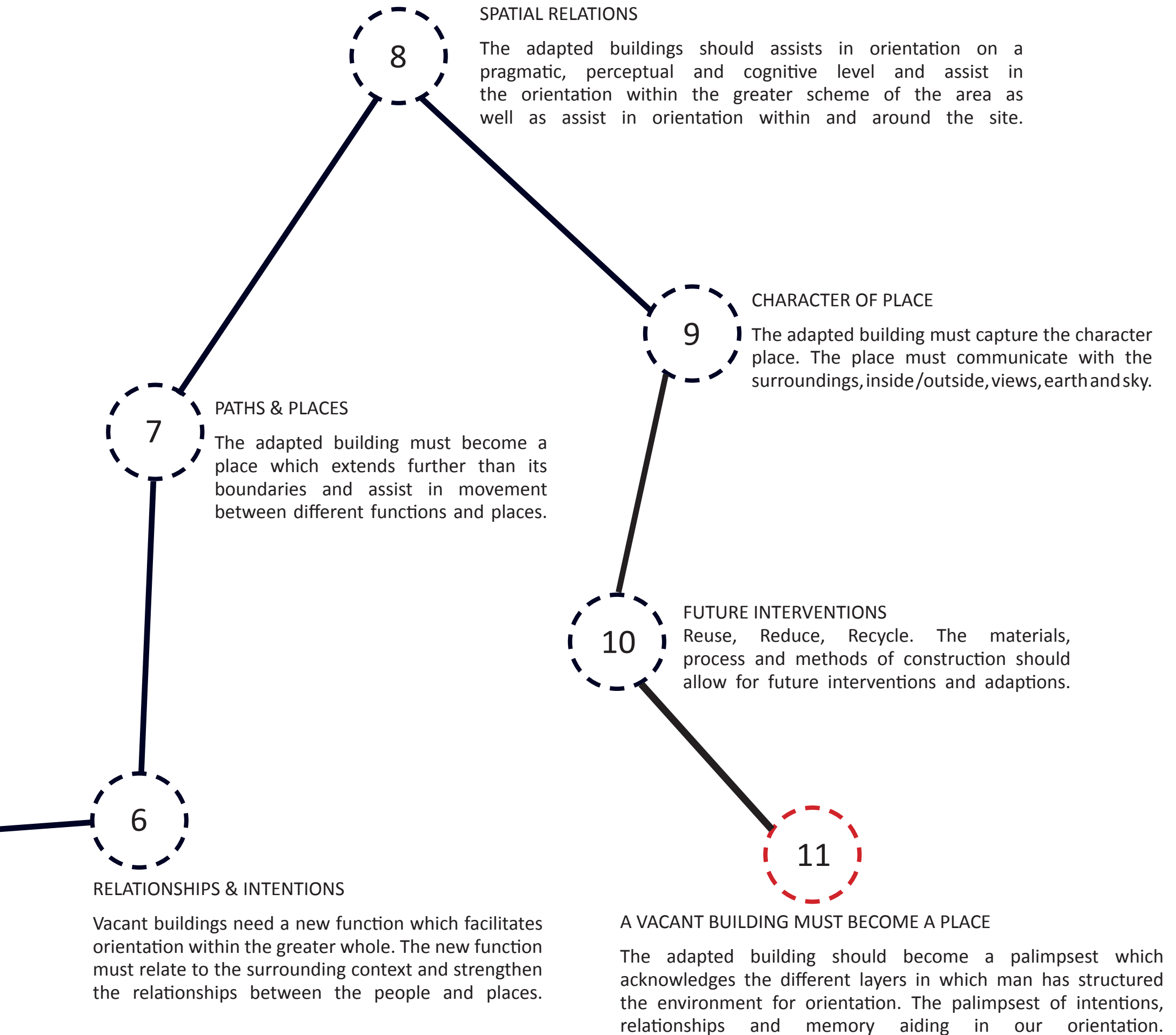


### 3.1

## THE PROJECT BRIEF

### THE REQUIREMENTS







# SITE SELECTION & ANALYSIS 4.0

ORIENTATION

>> 62 - 105

## 4.1 SITE SELECTION

BRAAMFONTEIN

## 4.2 THE SITE

A PATH TO WHERE?

## 4.3 LANDMARKS

PLACES FOR ORIENTATION

## 4.4 TRANSPORT EVOLUTION

NEW PATHS & RELATIONSHIPS

## 4.5 MOVEMENT ROUTES

TRANSPORT METHODS & COMMONLY USED PATHS

## 4.6 THE CHANGING CONCEPTS OF SPACE

## 4.7 AN ANALYSIS

## 4.8 JUTA STREET

PLACES & INTENTIONS

## 4.9 ADAPTATION ON JUTA STREET

TRANSFORMATION - THE FUTURE HAS ALREADY BEGUN

## 4.10 THE GATEWAY TO THE ART PRECINCT

JUTA STREET - THE NEW ART STREET







FIGURE 51

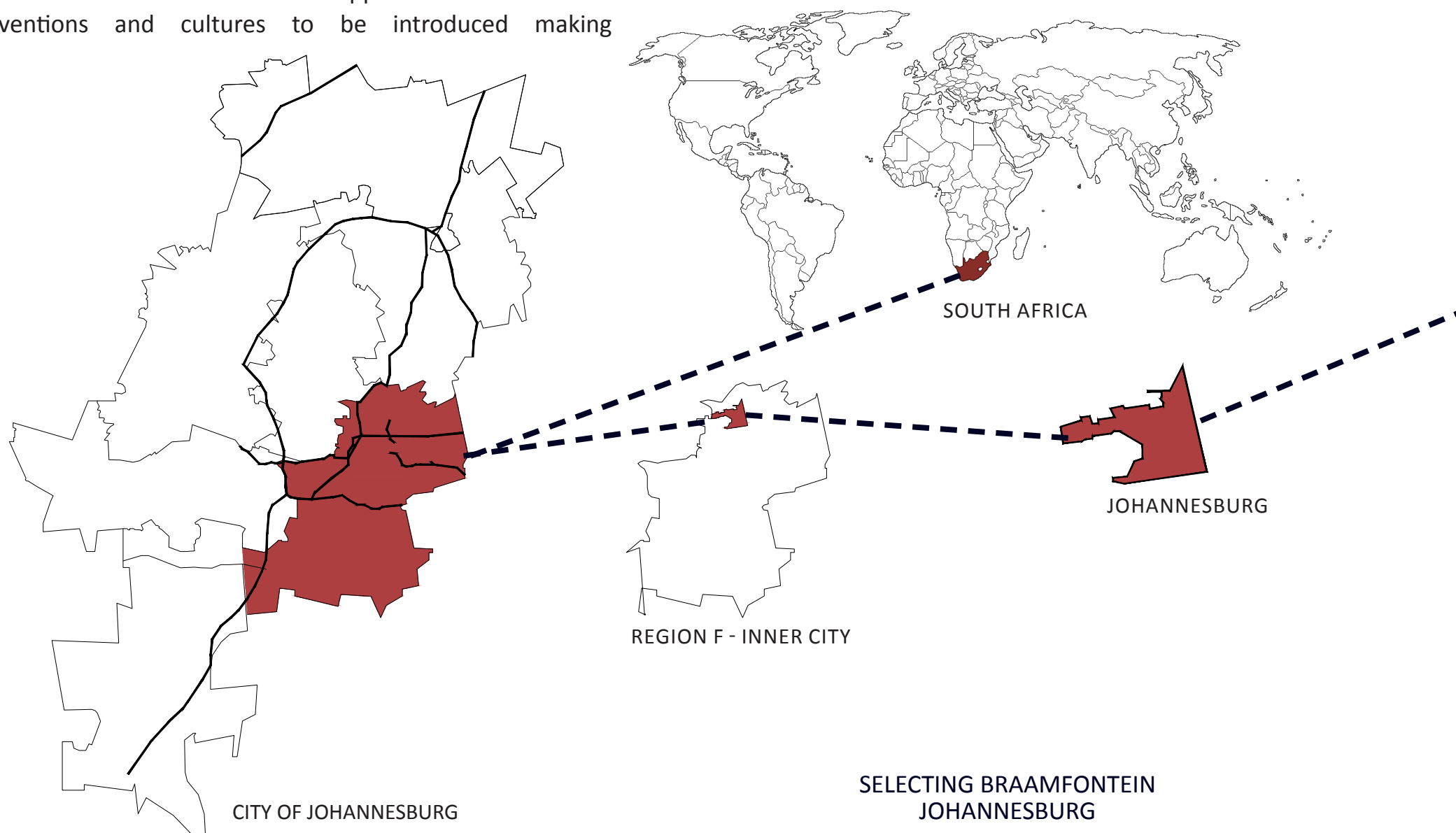
© Jon Hrusa



## 4.1 SITE SELECTION BRAAMFONTEIN

Braamfontein is located just outside of Johannesburg's Central Business District (CBD) north of the Nelson Mandela Bridge next to the University of the Witwatersrand. Choosing Braamfontein as a site for the project Recall seemed to be the most obvious choice as it is rich with history and currently under change by the new needs and requirements within the area. Braamfontein developed in the 1960's and was in its prime in the 1970's and 80's as a business district but now has reached the end of its life cycle and is no longer just a formal business district as large portions of the businesses have moved north of the CBD towards Sandton and Randburg (Anom, Gauteng Destinations Braamfontein Johannesburg, 2011). A large majority of the buildings have become tired and this has created opportunities for new interventions and cultures to be introduced making

Braamfontein a vibrant diverse multicultural place. Braamfontein is also connected to Newtown by the Nelson Mandela Bridge which creates a connection between the north and south of the city; the Nelson Mandela Bridge has also been called the "GATEWAY" to the inner city from the north (Anom, Gauteng Destinations Newtown, Johannesburg, 2011). Braamfontein's buildings are currently being upgraded and adapted at a frightening pace and the area is layered by different user groups and transport systems built over time. The changing environment has resulted in vacant buildings becoming the perfect setting to explore the theories of existential space and how to integrate vacant buildings back into the city.



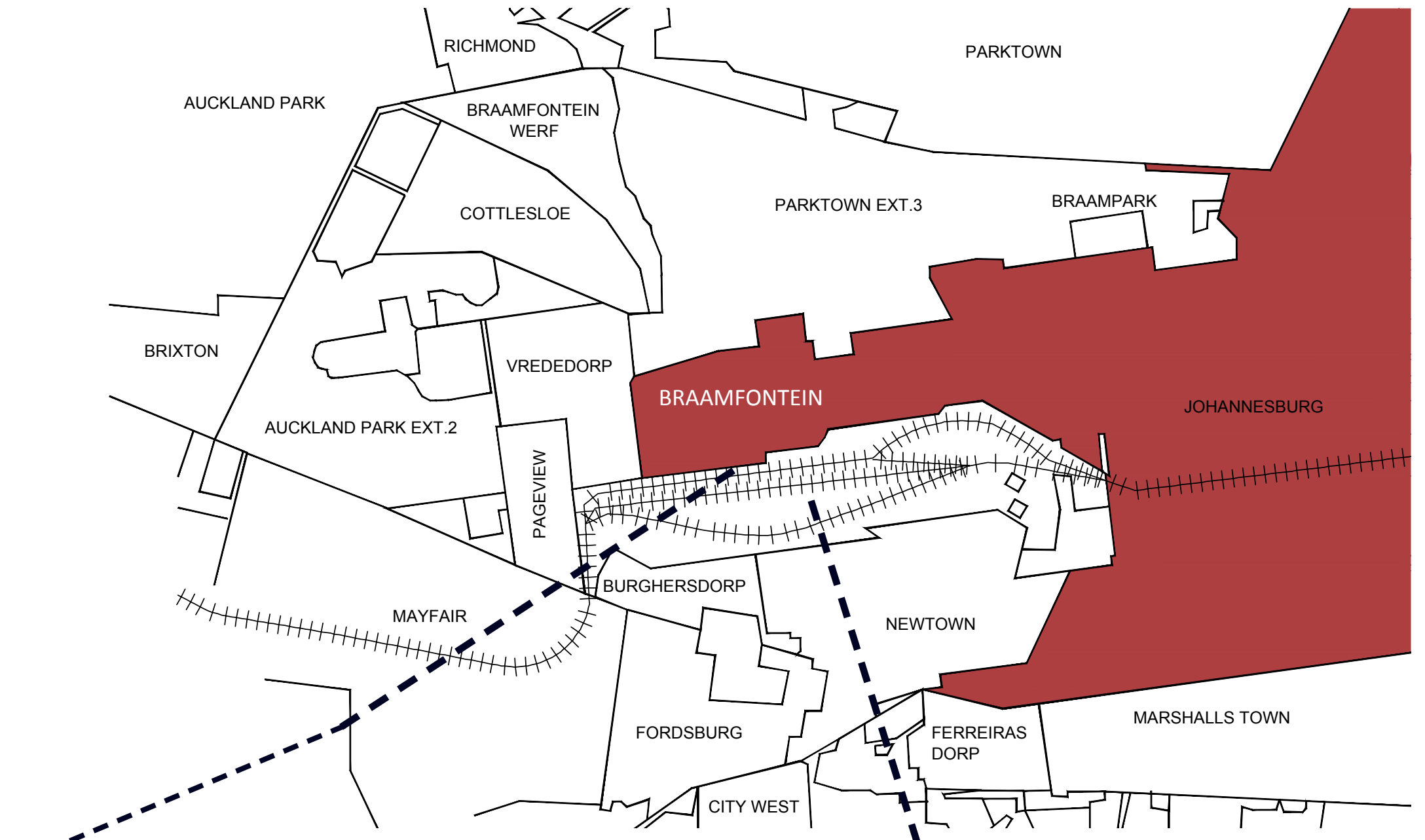


FIGURE 52



UPGRADING & MULTICULTURAL



TRAIN TRACKS



FIGURE 53



BRAAMFONTEIN

NELSON  
MANDELA  
BRIDGE

OLD PARK STATION

POTATO SHED  
& MUSEUM AFRICA

NEWTOWN ARTS  
PRECINCT

RAILWAY  
LINES

QUEEN  
ELISABETH  
BRIDGE

CBD OF  
JOHANNESBURG

DOUBLE  
DECKER  
M1 HIGHWAY





THE GATEWAY

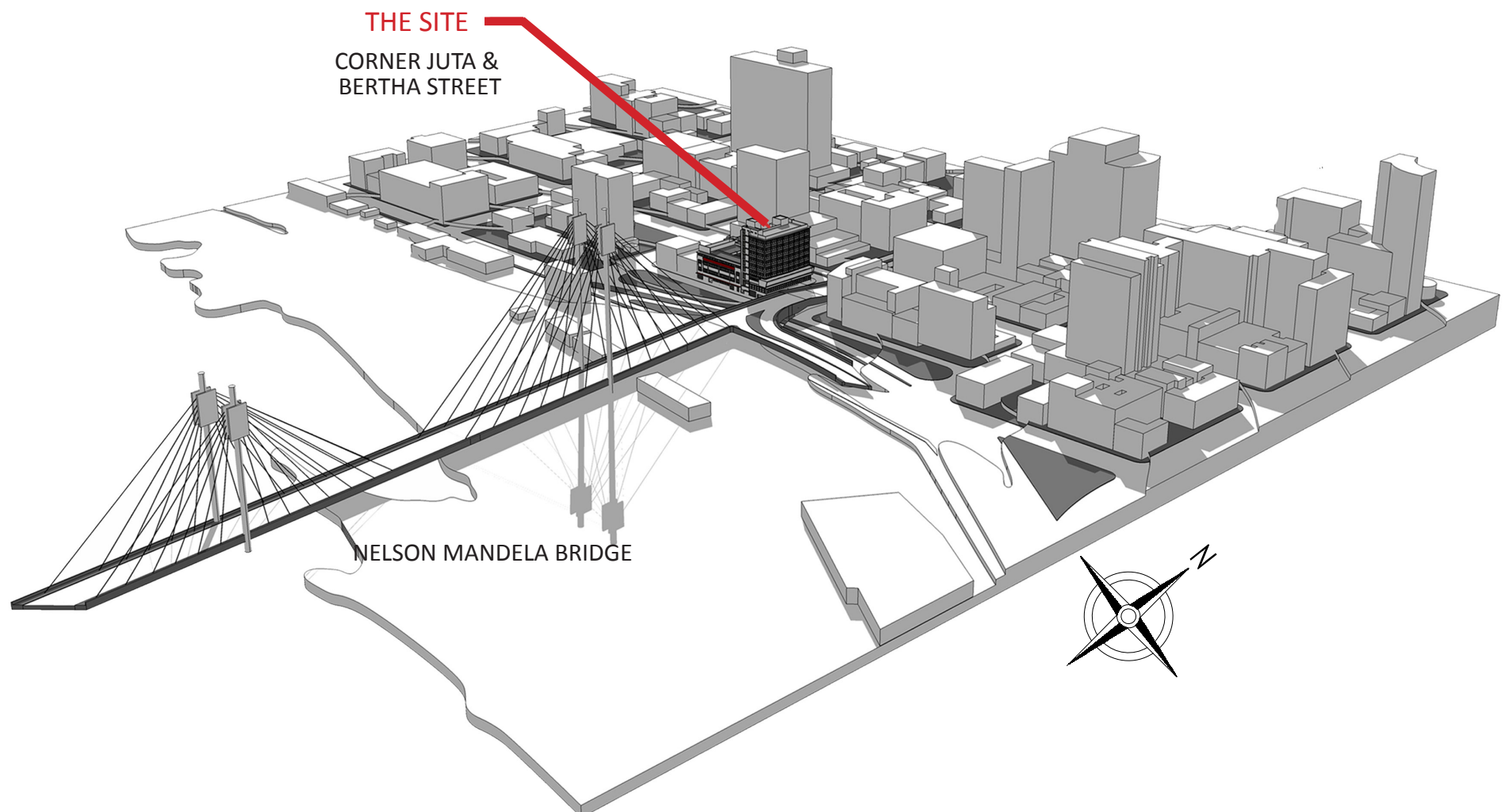


## 4.2 THE SITE

### A PATH TO WHERE?



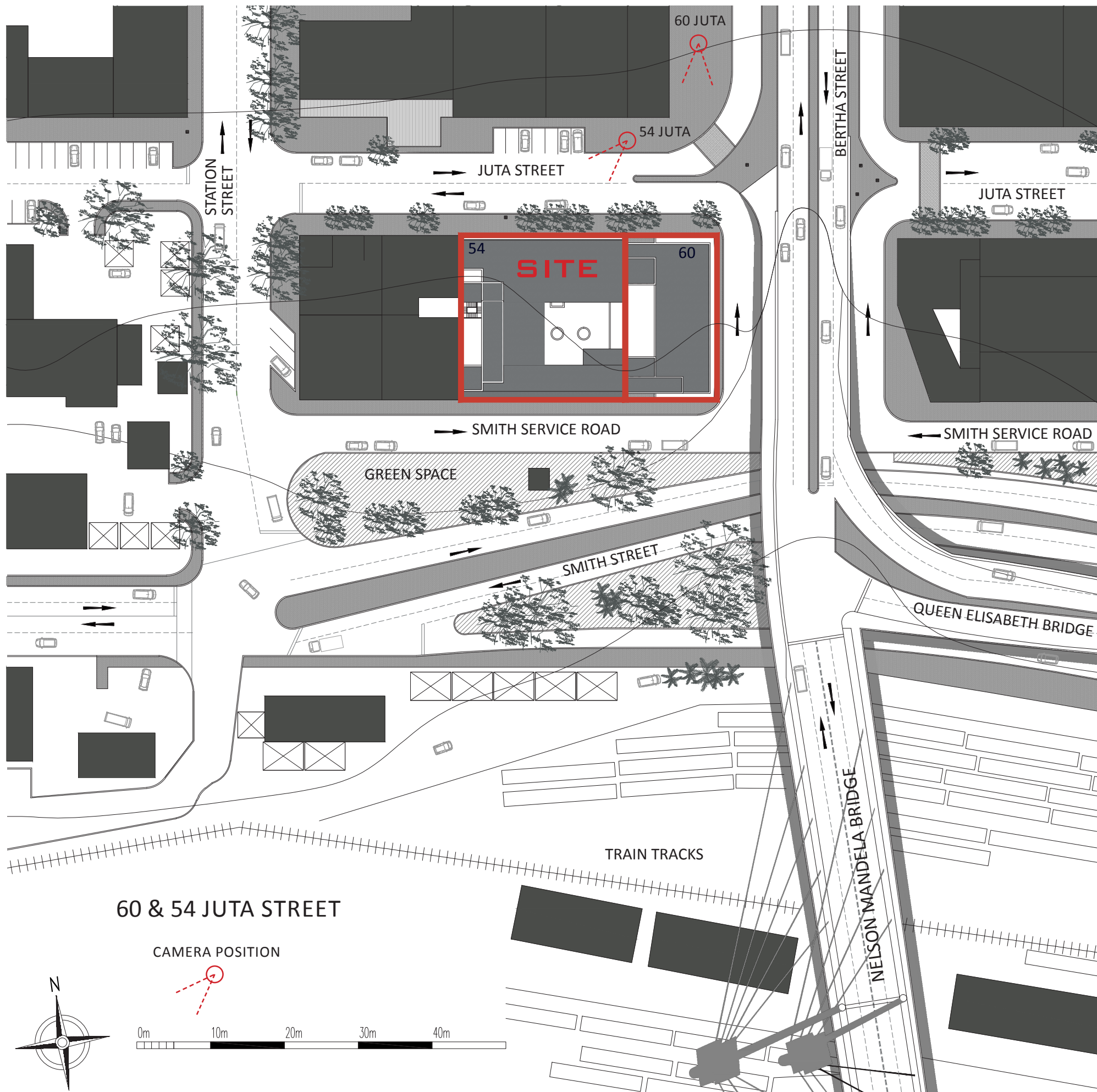
The site is located north of the CBD corner Juta & Bertha Street and is a neighbour with one of Johannesburg's most iconic structures being the Nelson Mandela Bridge. The path over the bridge from the south is ended by two vacant buildings on either side. In the theory of existential space we learnt that a path has a point of departure to which it extends horizontally to other places and destinations. The site has the potential of becoming a meaningful destination as it's in a prime position with lots of pedestrian activity filtering over bridge. The site also has amazing views of the CBD and Nelson Mandela Bridge which is magical at night. This will also allow for the exploration of morphology (creating the character of place using the environment) in the design phase. Exploring the surrounding context in more detail will help with the understanding of why the Nelson Mandela Bridge is such an iconic part of the City. This will allow a better understanding as how to integrate the vacant space successfully back into the surrounding context and become a part of the overall orientation within the area.





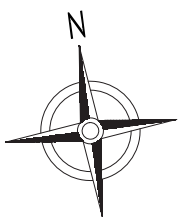






## 60 & 54 JUTA STREET

CAMERA POSITION



0m 10m 20m 30m 40m



## 60 JUTA STREET

BUILT 1958

PAST FUNCTION: OFFICE / MEGABIKE - WAREHOUSE

60 Juta Street currently is a large advertising Board; this is in fact a common disguise for vacant buildings in Johannesburg and was not initially noticed by myself until recently. The disguise hides the building's imperfections from the surrounding and becomes a form of income for the owner as the building remains unoccupied. The past function of the building is no longer bringing in the expected income to be economically sustainable; a new function which is integrated with the surrounding interests of the site will allow this building to come back to life. 60 Juta has the potential of being the missing key to rejoining Juta Street as a whole; instead of being two separated halves.



## 54 JUTA STREET

BUILT 1958

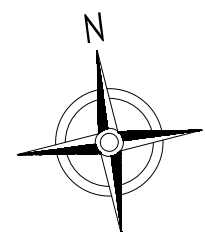
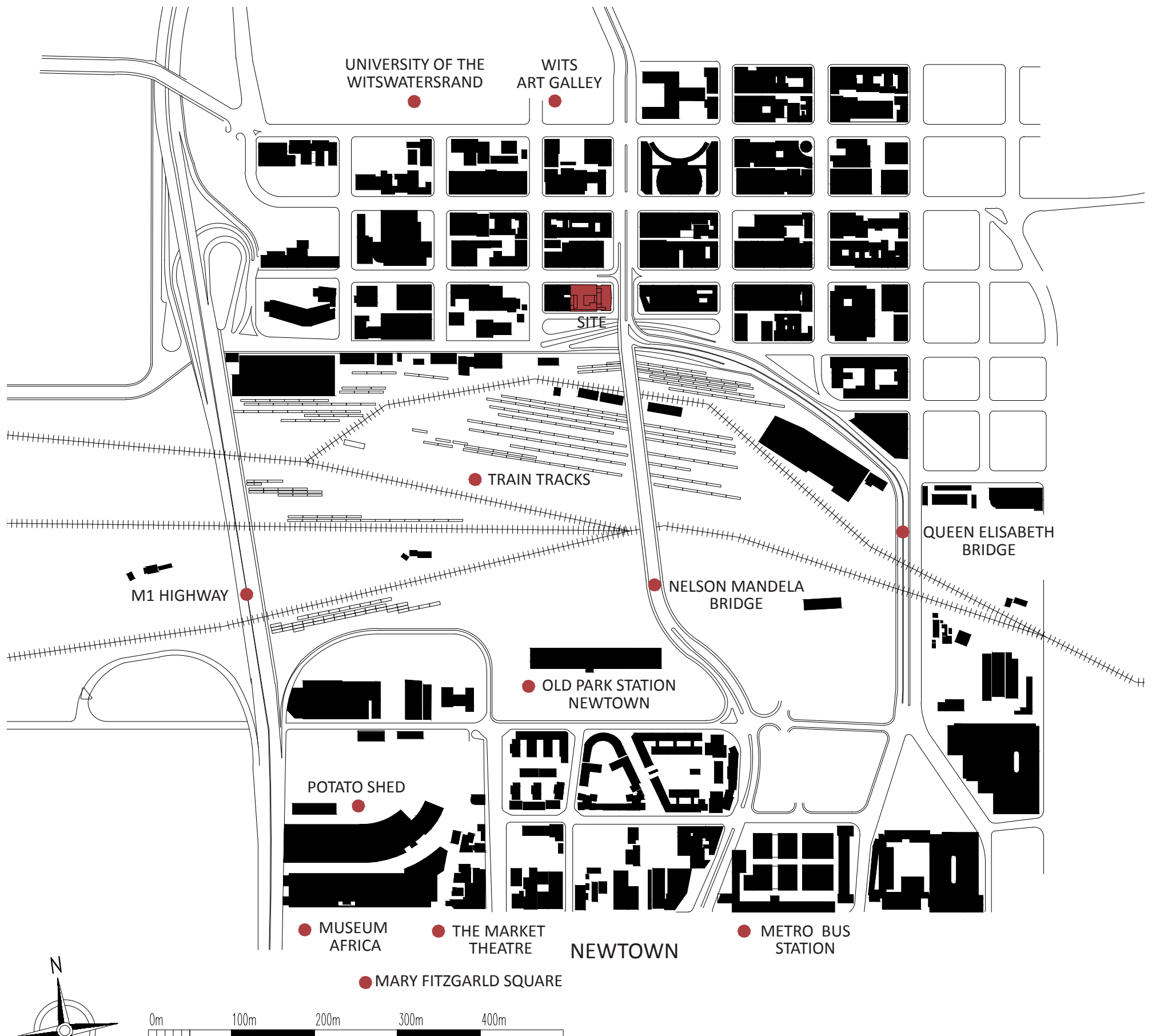
PAST FUNCTION : KODAK CAMERA WAREHOUSE  
CURRENT FUNCTION: DESIGNER SHOP, OFFICE  
AND WAREHOUSE

The site appears vacant at first as it is completely cut off from its surroundings, and the building is rather unfriendly and not easily accessible. The building has one entrance for the public on Smith Service Street which is the most informal dangerous part of the site. At the moment most of the building is being used as a warehouse which could be relocated to a cheaper location and have the designer shop incorporated in the new design. The project is not to displace the current uses, being Yarn and Hobby Concepts, but rather use the building more effectively to capture the full potential of the site and its surrounding uses. The site even though not vacant has the same characteristics as a vacant building and therefore can be a valid site to explore the theories of existential space.



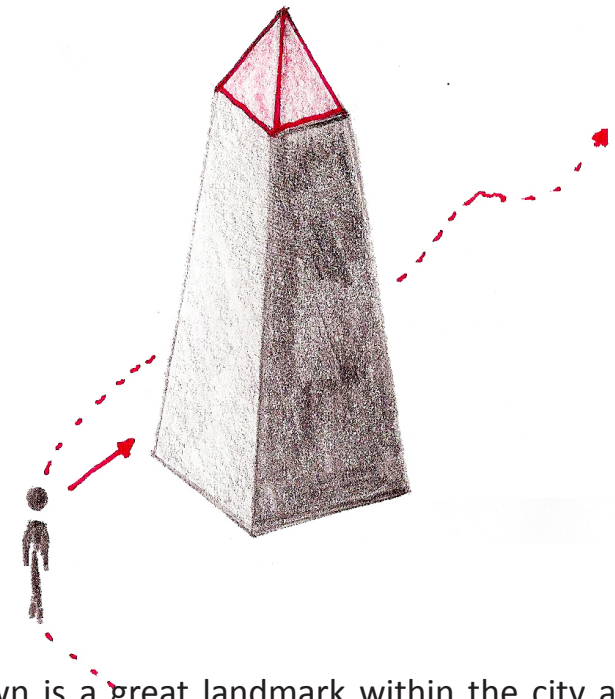


4.3  
LANDMARKS  
PLACES FOR ORIENTATION



Landmarks are considered key points in the environment for orientation to take place within the greater context as they are points of reference. According to Norberg-Schulz they also express directions to places and indicate boundaries (Norberg-Schulz, 1972, p.39). Landmarks could also be structures from the past such as historical buildings, as they bring us a sense of orientation within the world through the sense of time, revealing the layers of the past, this giving us a sense of belonging and moving forward (progression).

Newtown (Newton Heritage Trail, 2010) was merely known as Brickfields which used to be a racially mixed area involved in the manufacturing of clay bricks. The brick manufacturing came to an end as the first large railway marshalling yard was built in 1890. In 1906 the council of Johannesburg forcefully removed the African residents to Klipspruit which is now known as Soweto today, and the Indian population to Pageview. Brickfields was then named Newtown which became a trading location for fresh produce. As Newtown developed, a power station (turbine hall) was constructed which fuelled most of Johannesburg's electricity and in 1970 the market and Power station were relocated leaving Newtown in a bit of a dilemma. As a part of the city's rejuvenation plan, Newtown was transformed into a safe place for work, living and entertainment and is now known as the arts precinct of Johannesburg.



Newtown is a great landmark within the city and is now home to a mixture of entertainment, such as the market theatre, museum Africa, turbine hall, art galleries, and clubs such as The Woods. Newtown is a great place for nightlife fuelled by students and creative people sharing a common interest in the arts and history of Johannesburg



FIGURE 54



The Nelson Mandela Bridge (Big Media Publishers, 2003) was opened on the 20th of July 2003, by the former President himself and today is one of the city's most iconic structures creating a link between the north and south. The Bridge is the largest "cable-stayed bridge" in South Africa spanning 284 meters over the railway lines which divide Braamfontein from Newtown. The city of Johannesburg has also launched an initiative to rejuvenate Braamfontein as a place of entertainment and businesses which created a "cultural arc" between the cultural precinct Newtown and various cultural institutions in Braamfontein such as the University of Witwatersrand and the constitutional precinct. The arc incorporates museums, historical sites and monuments theatres, dance studios, music venues, and art galleries and has a number of cultural events that run through the year for example the Johannesburg fashion week which took place on the Nelson Mandela Bridge. This arc was made possible by the Nelson Mandela Bridge making the rejuvenation of Braamfontein and Newtown a successful narrative to date, with plenty room for growth.





THE NELSON MANDELA BRIDGE  
CONNECTING NORTH & SOUTH



FIGURE 55











SITE



4.4

## TRANSPORT EVOLUTION

NEW PATHS & RELATIONSHIPS





FIGURE 56



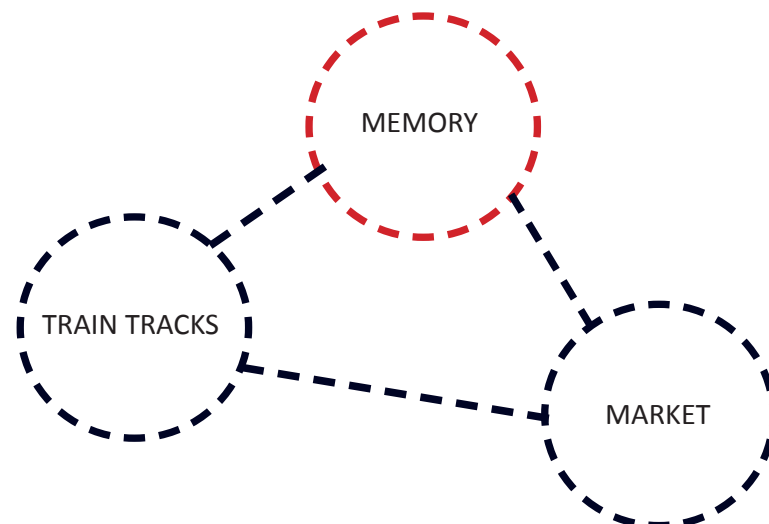
POTATO SHED

The Potato Shed located behind Museum Africa was designed in 1910 (Newtown Heritage Trail, 2010) where the shed used to sell fresh produce which was transported by the railway lines. The Potato Shed was said to move more than 2000 tons of fresh goods a day and played an integral part in the development and history of Newtown. The railway lines became the primary form of movement in and out of the city and helped support the trade that was happening within the area at the time. The Potato Shed is now going to be adapted into a hotel and retail shopping centre which will celebrate the culture and significance of the Potato Shed and will become a great addition to Newtown's rejuvenation plan.



OLD PARK STATION NEWTOWN, VIEW FROM NELSON MANDELA BRIDGE

The Original station (Newton Heritage Trail, 2010) was built in 1895 in Braamfontein and in 1952 was dismantled and moved to Kempton Park and then moved a second time in 1995 to Carr Street where it overlooks an open green space and the railway lines. Even though the structure was moved it still maintains its historical value and has the possibility of also being adapted into a museum for transport which would create a great relationship with the Potato shed, revealing a layered history of Newtown and the significance of the railway tracks in Johannesburg.





Since the train modes of transport to move people in and out of the city have evolved, the city has become layered with different forms of movement such as individual commuters (cars) to public transportation such as taxis, buses and now the BRT system, which is already moving people in and around the city. The Gautrain is also in operation, making the network to places such as Sandton and Pretoria quicker and easier for people to navigate. Proximity in the environment has become less of an issue as technology improves; the world is most definately becoming a smaller place layered by networks of movement and people.

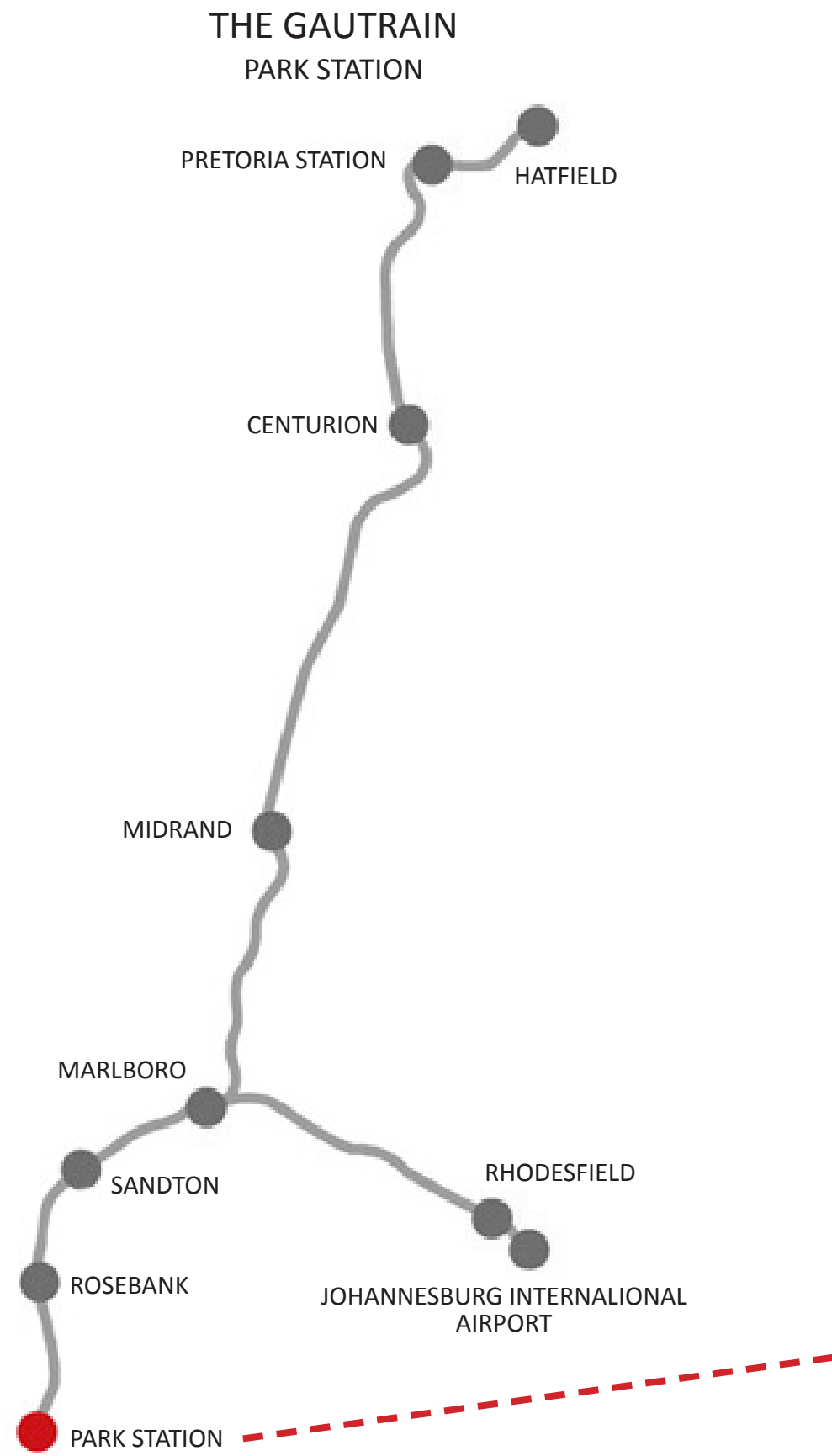
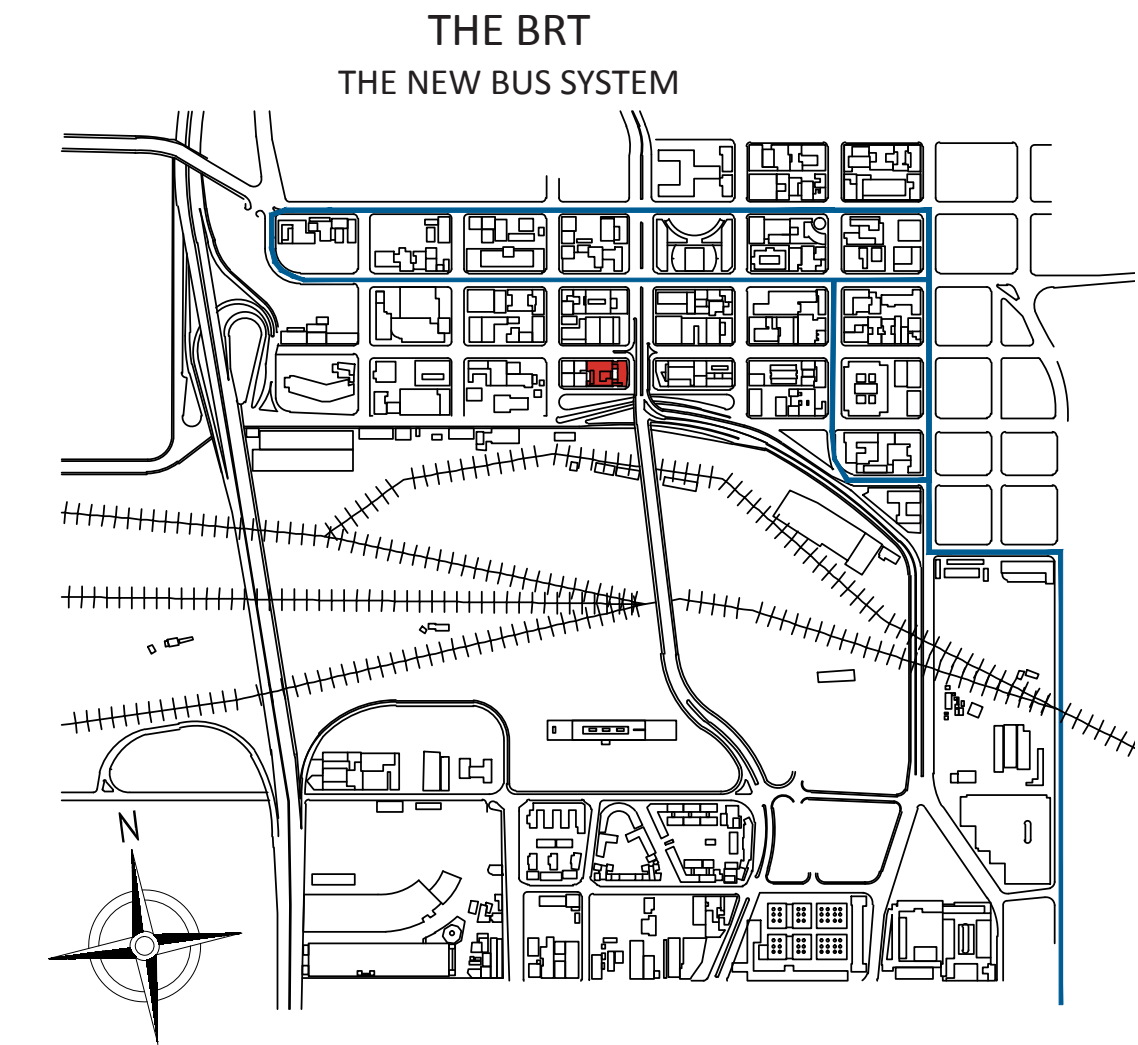


FIGURE 58



FIGURE 59



FIGURE 60

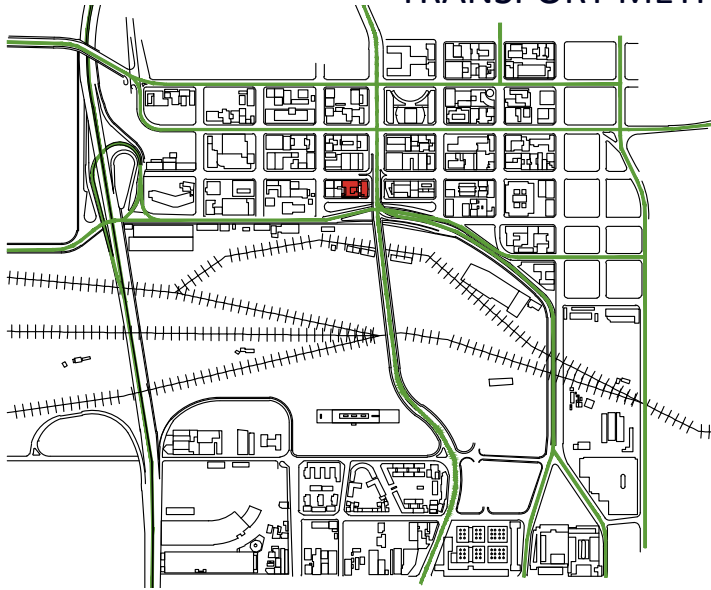


The existing park station (Background to Johannesburg Park Station, 2011) is the busiest transport node in Johannesburg and is currently under development to become a multi-modal transportation interchange. The new park station will integrate all the overlapping transport systems such as taxi's and buses, creating a stronger network between the different modes of transport. Park station is located to the east of the Nelson Mandela Bridge within close proximity to Metro Bus Station. The Gautrain is connected to the O.R. Tambo International Airport which will hopefully bring tourists to Newtown, giving 60 Juta Street a chance to join the potential future tourism in Johannesburg. The Nelson Mandela Bridge will play a key role for the movement of tourists between Newtown and Braamfontein.



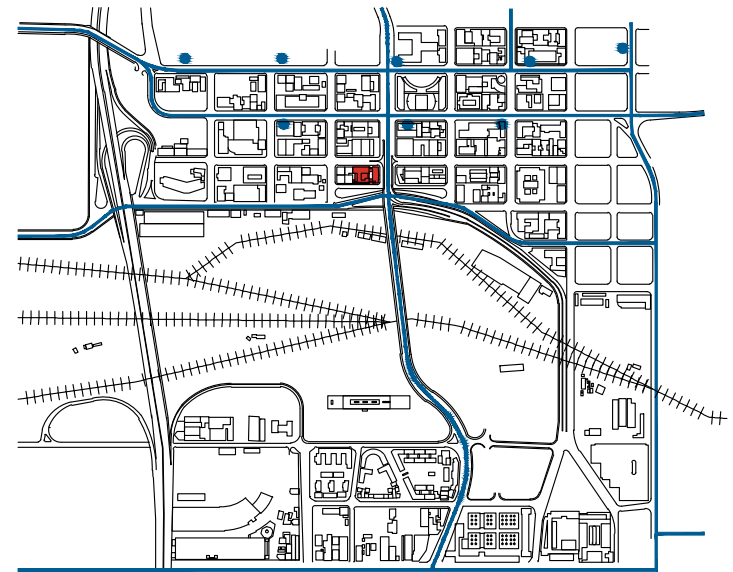
## MOVEMENT ROUTES

### TRANSPORT METHOD AND COMMONLY USED PATHS



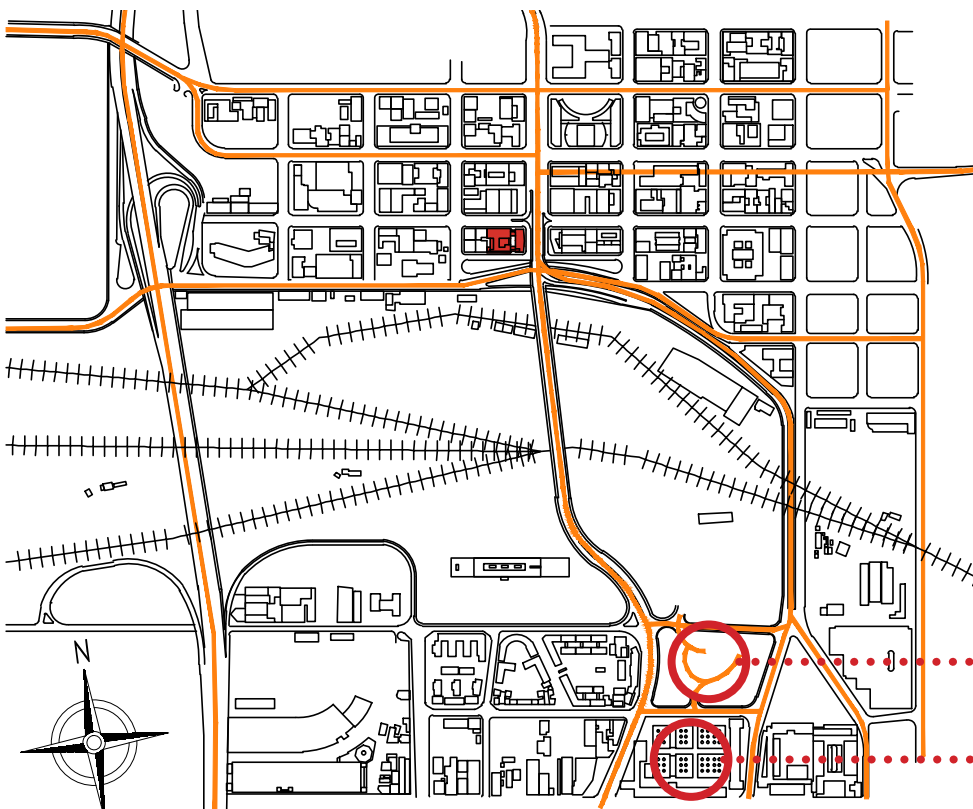
#### VEHICLES

Private motorists are the major cause of congestion in our city and this could be attributed to the city's lack of public transportation, but this is changing as the city has introduced the BRT and the Gautrain. Vehicle movement will become less of a problem when the transport infrastructure is up and running, catering for movement between all the surrounding areas. The movement of cars should not be promoted as they waste fuel resources and are the number one cause of accidents. The car rules the road, but hopefully in the near future this will not be the case. We need to be more conscious of our environment by being green and maintaining a lower carbon footprint.



#### METRO BUS

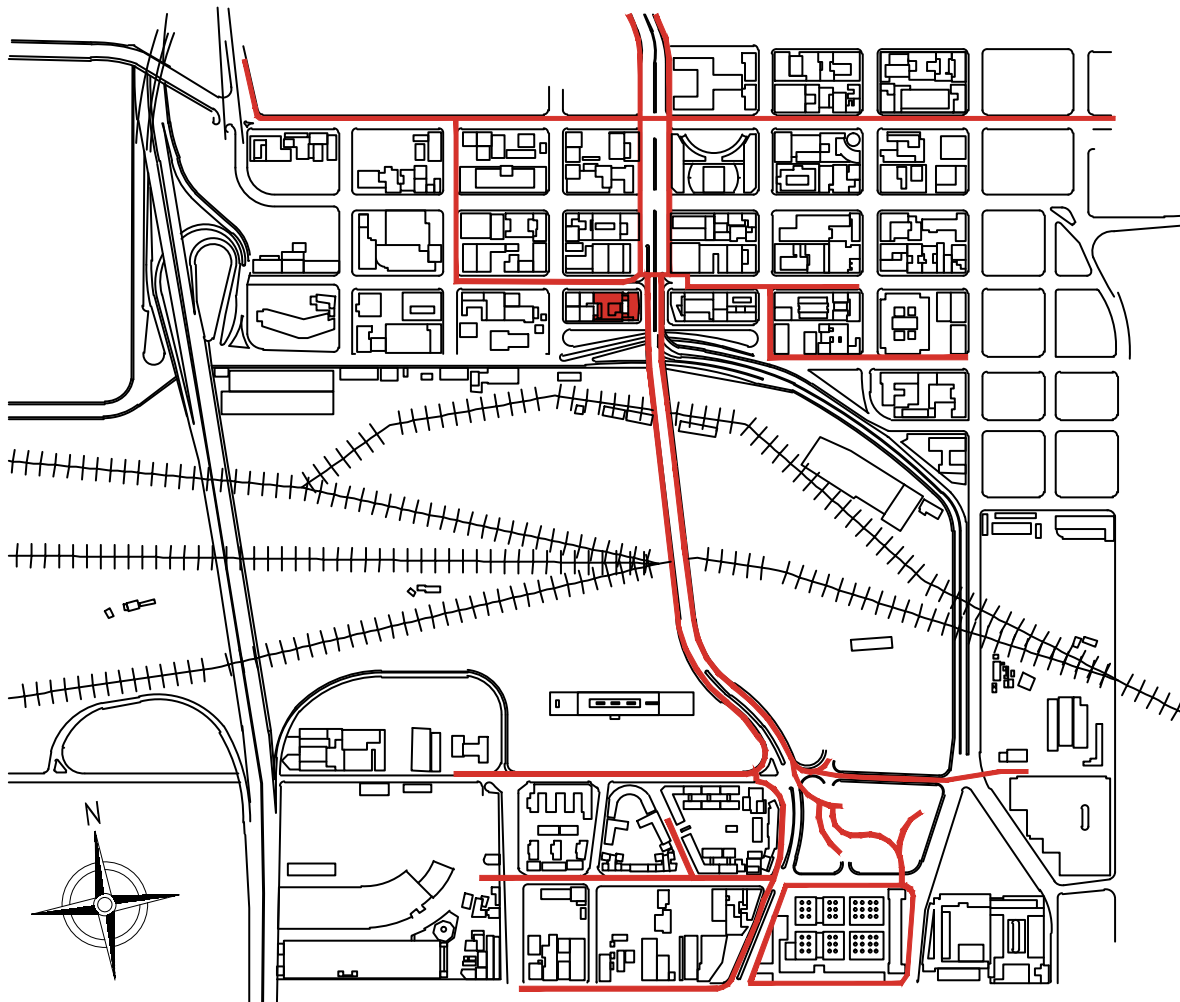
Metro Bus started in the year 2000 and is one of the largest bus operators in Johannesburg, transporting +- 90 000 people daily. Metro Bus has scheduled routes which transport people all around the city between institutions of study and places of work. Metro Bus's main focus is to provide transportation for daily uses as well as transporting people to and from events. This system of transport is safer than the taxis and is well networked in comparison to the new BRT system, which will need a few years to catch up and become the main bus transportation system.



#### TAXIS

Taxis or mini-buses are an informal, cheap method of transportation and cater for a large portion of the transport in and around the city. The taxi system is not the easiest system to use and understand as the hand signals and routes are not mapped out. It is an informal transportation system, so taxi stops happen on the road, under bridges and in any open space that can provide a node to the next stop. Taxis are well networked, but not friendly to first time users as I can attest to after my first attempt at catching a taxi. It was rather dangerous and the possibility of not landing up at the correct destination was worrying, but for constant use it is probably the best form of transportation.





## PEDESTRIANS

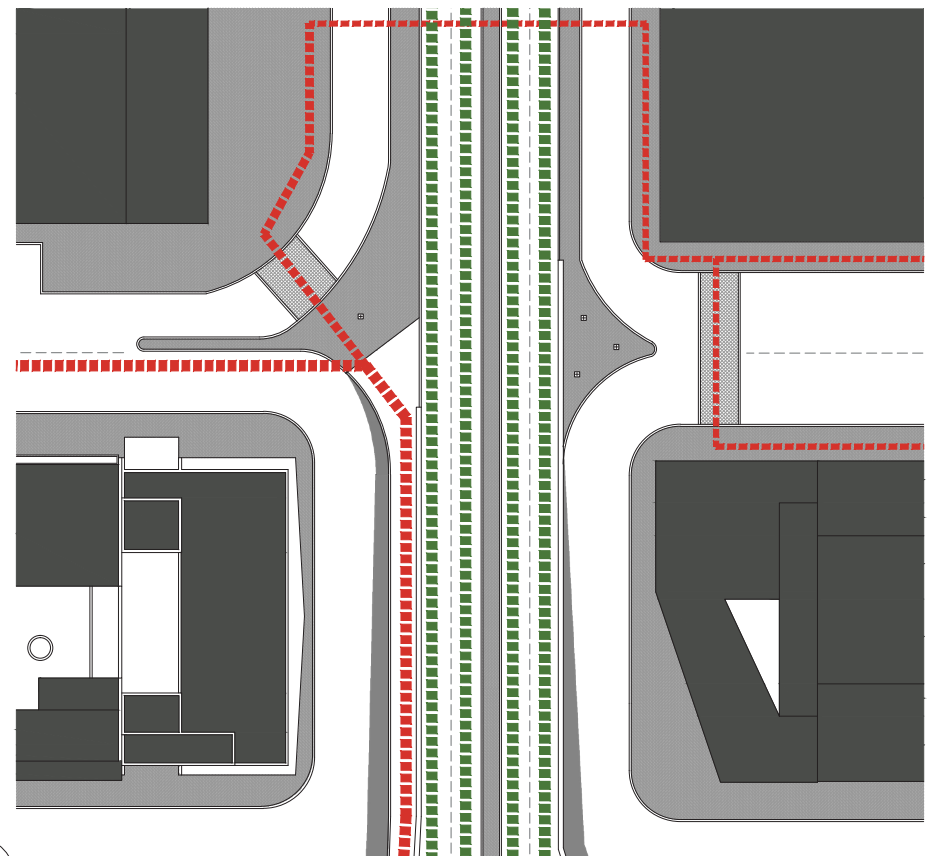
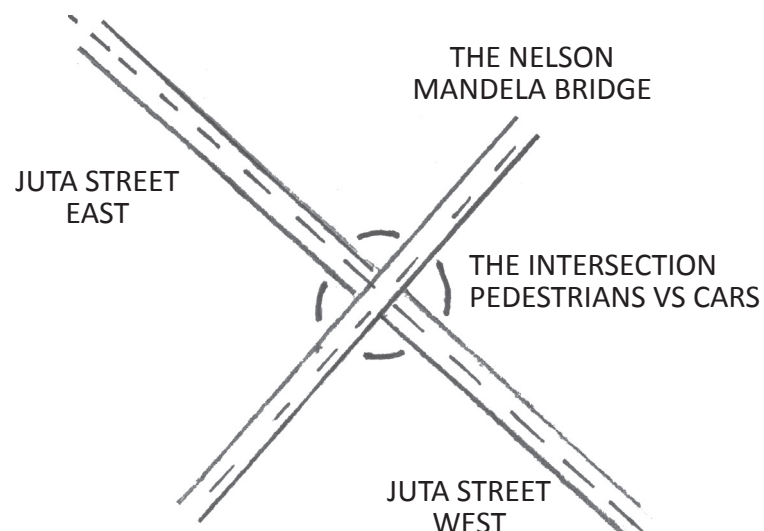
Pedestrians are the most important movement in the city as they help tie places together where cars generally cannot go. Pedestrianism eliminates the need to finding park in the CBD, which is never joyful. Movement across roads is, however, extremely dangerous as people are always in a rush to get to the places they want to be and forget about the safety of others. Pedestrian movement through the city is experienced on a pragmatic & perceptual level and, in my opinion, is better experienced through walking than in the backseat of a vehicle.







Sometimes we make large leaps with movement and forget about the smaller things, much like what has happened at the base of the Nelson Mandela Bridge. It has lifted sidewalks which the pedestrian has to walk across, squeezing between cars in order to get to the other side of Juta Street. New paths create new relationships with the environment and the Nelson Mandela Bridge made a great link between the North and South of the City, but has also in fact also disconnected relationships by restricting the one movement that Juta Street relies on, the movement of people, as the bridge off-ramp divides the street.



PEOPLE MOVING AROUND THE NELSON MANDELA BRIDGE OFF RAMP IN ORDER TO GET TO THE OTHER SIDE OF JUTA STREET



FIGURE 61

DISCONNECTED  
PEDESTRIANS JUTA

CONNECTED  
M1 HIGHWAY

CONNECTED  
NELSON MANDELA BRIDGE



HISTORICAL PHOTO OF BRAAMFONTEIN AND NEWTOWN BEFORE THE  
CONSTRUCTION OF THE M1 HIGHWAY AND  
THE NELSON MANDELA BRIDGE





FIGURE 62

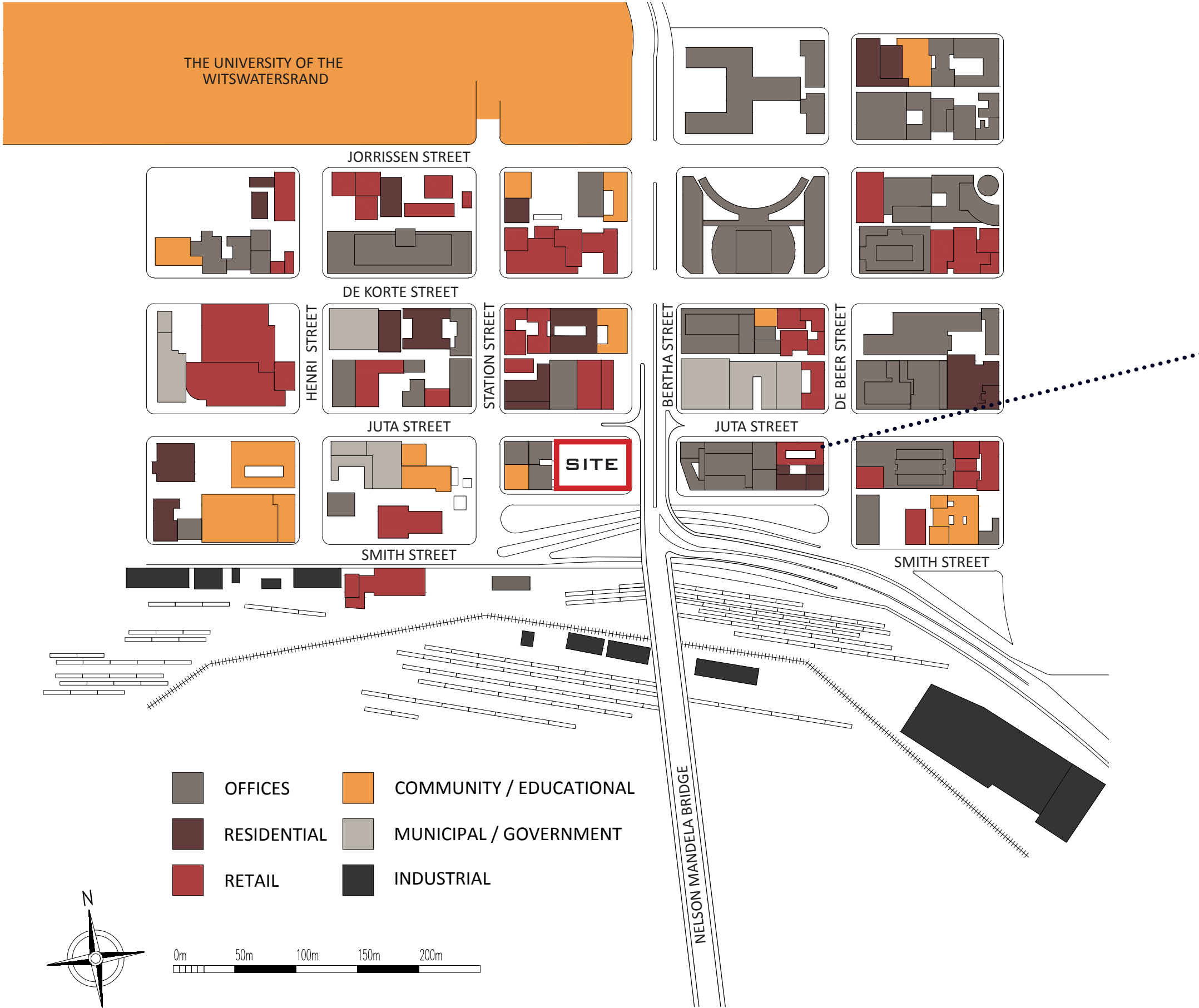


4.7  
AN ANALYSIS





THE PROPOSED BUILDING USES  
PALIMPSEST OF INTENTIONS







Braamfontein is zoned for a multiple range of uses and activities and is largely comprised of many-sized office buildings and a variety of educational institutions such as Birman College, Rosebank College and the University of the Witwatersrand. Braamfontein was formerly a major business district, which resulted in a large number of buildings with an office block typology. This has begun to change as more cultural people began to move into Braamfontein giving the area a new and unique architectural expression.



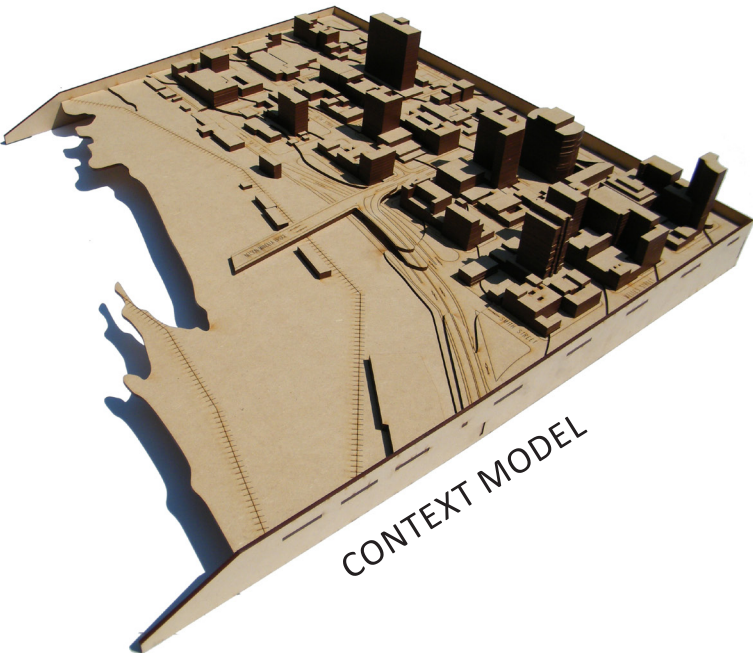
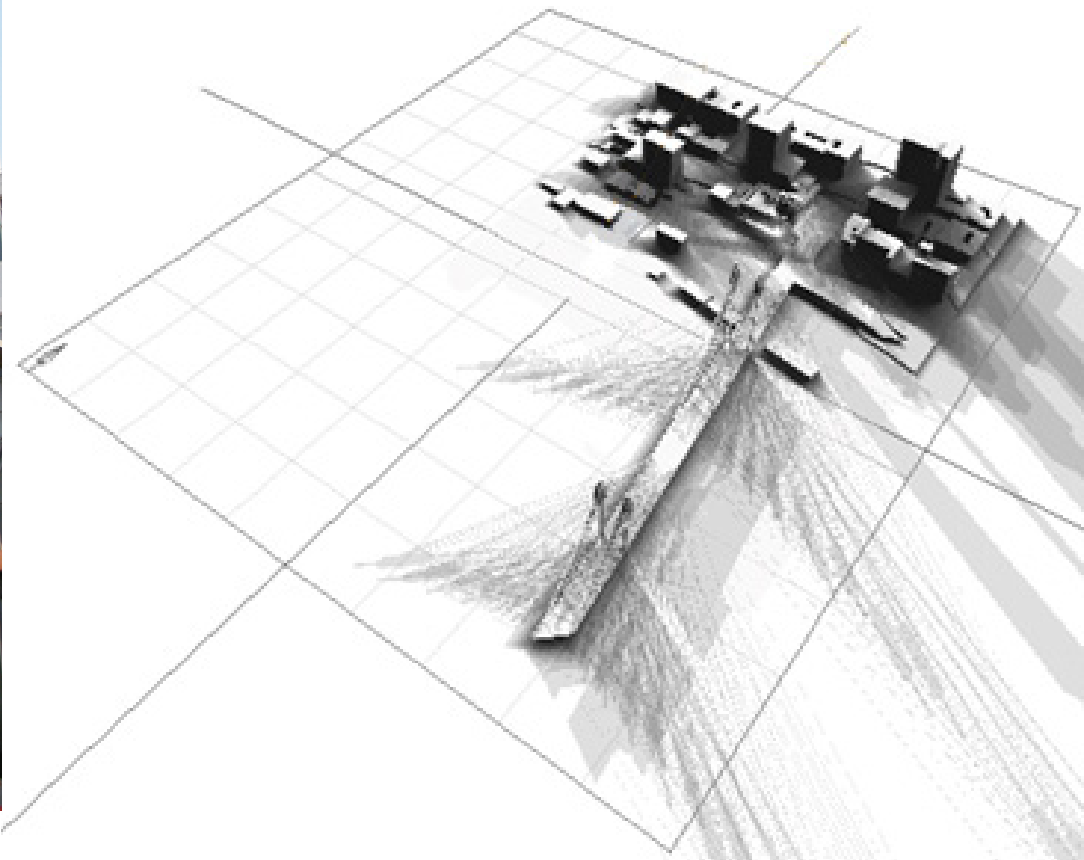
BUILDING HEIGHTS  
LIGHT, HOW THE BUILDING RECEIVES THE SKY



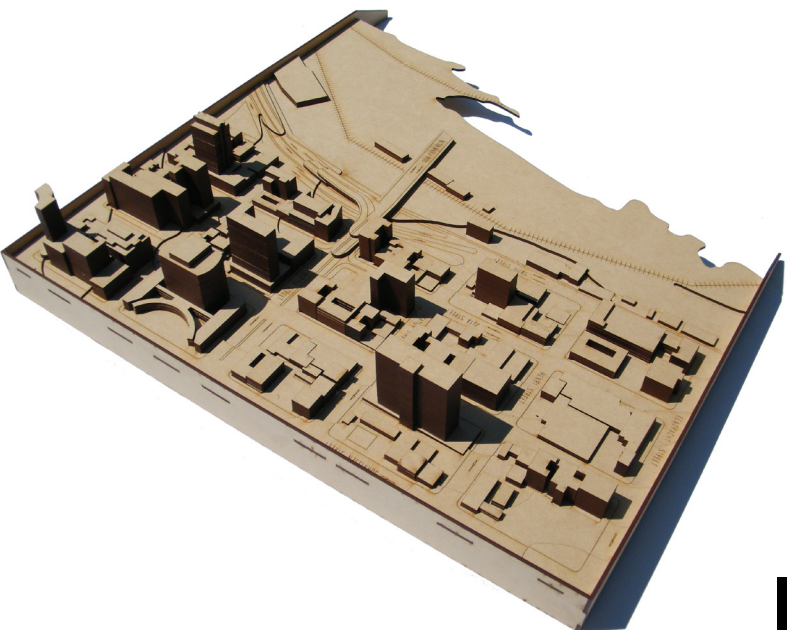




The site is located in a dense urban context which makes the competition for light an increasing issue. Most of the buildings in Braamfontein range from two storeys to the larger commercial buildings which are approximately ten storeys in height. Morphology has to do with how the building communicates to its environment, thus giving the building an environmental character. How does the building receive the sky? If our environment is experienced in the vertical plane, light can bring about orientation through the play of shadows indicating the time of year and day. A sun dial works in a similar way; maybe the building is a large sun dial in the environment, constantly informing us of the time.



CONTEXT MODEL





GREEN SPACES AND SOFT EDGES  
THE NEED FOR GREEN SPACE IN THE CITY







In the theory of vacant buildings, we discovered that parks are a much needed necessity for the healthy psyche of people. Parks and trees soften the harsh concrete environment and create shaded places in which to escape the hustle of the busy urban environment. Green spaces in the city of Johannesburg are rare and at the moment this green space in the south of the site is underutilized. Like the pedestrian, the green space is squashed between Smith Street and Smith Service Road. The green space at the moment feels random as it has no connection to the surrounding activities. The new function of the building should attempt to include and activate the green space, making it feel a part of the surrounding places and not isolated by the roads as it is at present.

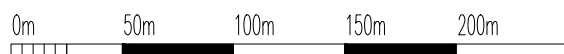
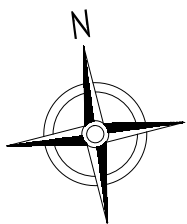




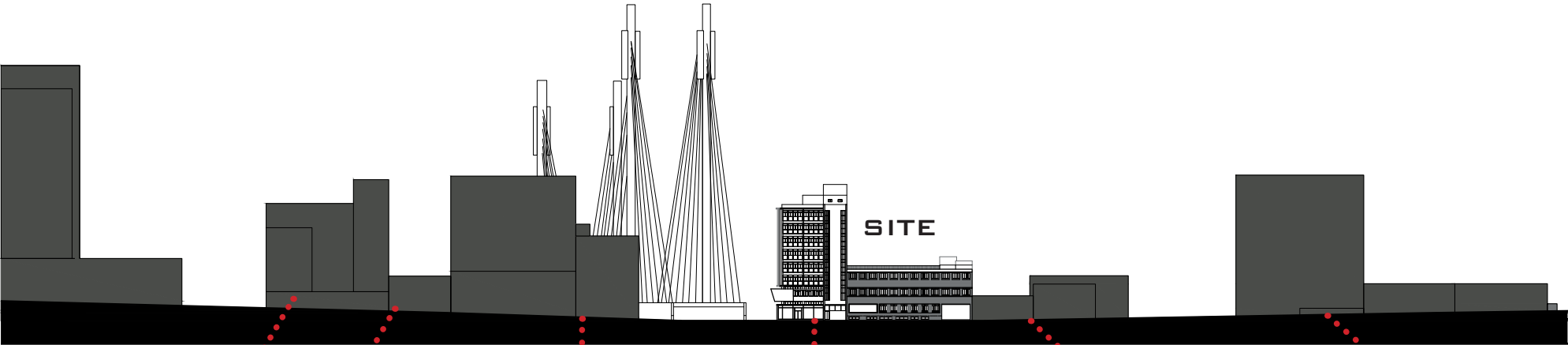
# 4.8

## JUTA STREET

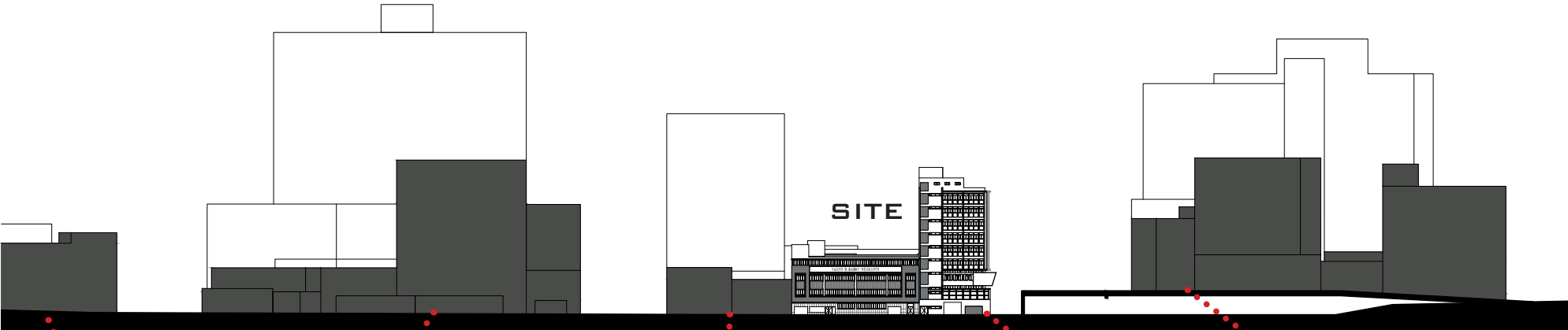
### PLACES & INTENTIONS







NORTH ELEVATION OF JUTA STREET

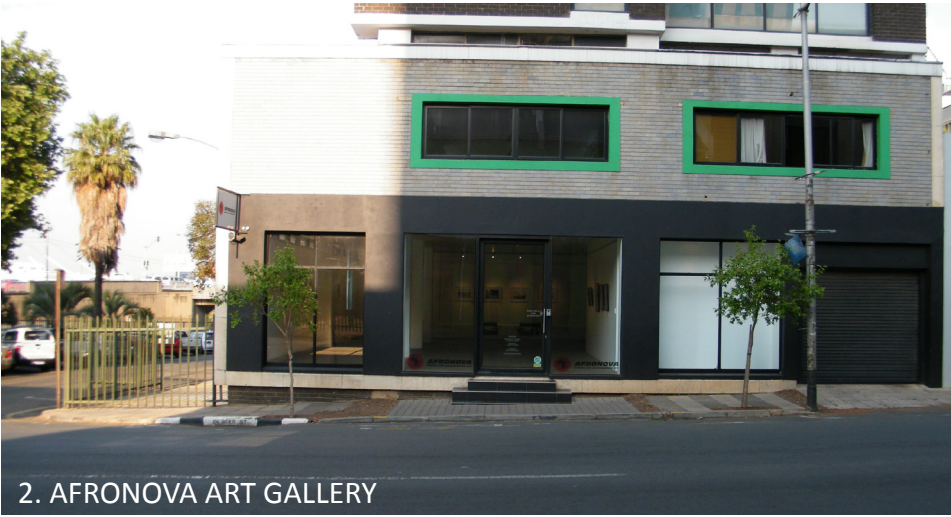


SOUTH ELEVATION OF SMITH SERVICE ROAD





1. STEVENSON ART GALLERY



2. AFRONOVA ART GALLERY



3. CO.OP



4. BUSH CRAFT TRADING



6 / 14. SEVENTY JUTA





7. SHINE PERFORMING ARTS



8. TOMS MUSIC



9. .NC THE CLUB



10. TODAY'S HOPE FUNERAL SERVICE



11. LEADERGROUP HOUSE



12. PIKIITUP





13. BRIDGE DINER



15. KITCHENERS BAR / FOOD



16. BP FILLING STATION



17. CAFE DE LA VIE



19. NEIGHBOURGOODS MARKET



20. ACCOUNTING OFFICES





21. SS & SE HOUSE SECURITY SYSTEMS



22. OFFICE SPACE UNKNOWN



23. BIRNAM BUSINESS COLLEGE



25. INSTITUTE FOR VOCATIONAL STUDIES



26. ROSEBANK COLLEGE



28. AUDI CAR DEALERSHIP



## ADAPTION ON JUTA STREET

### TRANSFORMATION - THE FUTURE HAS ALREADY BEGUN

Braamfontein has taken on a new identity, fuelled by a range of diverse people, from the informal to the cultural. Braamfontein is in a hot spot for development. The new transport infrastructure such as park station and the constant upgrading of Newtown for example Turbine Hall and the potato shed adaption) has inspired some new and interesting results. Juta Street has seen the potential of the area and has begun to develop into a multicultural art street.

70 Juta Street, designed and adapted in 2010 by the developer Adam Levy and Architect Bryan Dunstan, has created a lot of excitement within the street. The building was adapted from an old gun shop into a place of work and play. The design consists of small scale stores specialising in art, fashion and food. 70 Juta Street has brought a new life to the street and become the catalyst for major upgrading and development. There have been several new additions to the street since 70 Juta and the street is quickly becoming a creative hub in Johannesburg.

FIGURE 63



Having picked my site in the beginning of the year, it was rather quiet, but every time I visited Juta Street, there was always something new emerging out of the brickwork. Examples include a Nike box constructed on the top of the CO.OP gallery and a new major addition to the street: an art gallery by Linda Gavon from the Goodman Gallery. The Neighbourgoods market (Minnaar, 2011), originally started in Cape Town, opened a new venue at 73 Juta Street in September 2011. This market reinvents the public market as market visitors can go on a weekly basis and source organic foods and partake in a wide range of activities. The market has become a cultural gathering place where people from the surroundings can come and interact with each other and enjoy a sense of community. Juta Street has brought new life to the district, both day and night and has become a voice of reinvention and rejuvenation for Braamfontein and possibly the city as a whole.

FIGURE 64



FIGURE 65





FIGURE 66



FIGURE 67

# LETTUCE TURNIP

— the —  
**BEET**



**NEIGHBOURGOODSMARKET**  
LAUNCHING IN JOBURG ~ 10 SEPTEMBER 2011

EVERY SATURDAY 09:00 - 15:00 ~ 73 JUTA ST BRAAMFONTEIN ~ [WWW.NEIGHBOURGOODSMARKET.CO.ZA](http://WWW.NEIGHBOURGOODSMARKET.CO.ZA)





FIGURE 68





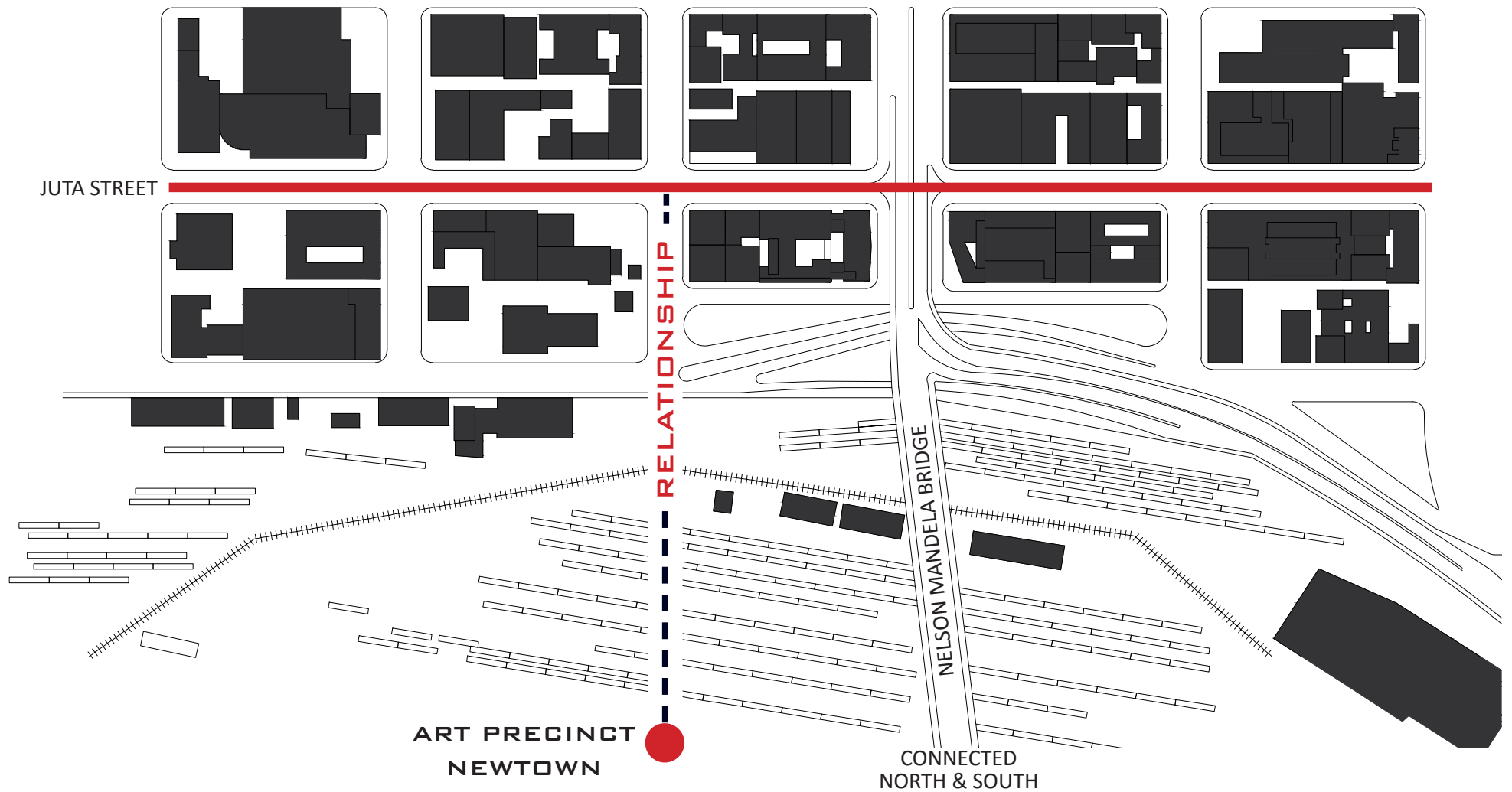
**BRAAMFOTEIN IS THE PLACE TO BE!!!**

**REINVENTING JOBURG**



## THE GATEWAY TO THE ART PRECINCT

## JUTA STREET - THE NEW ART STREET



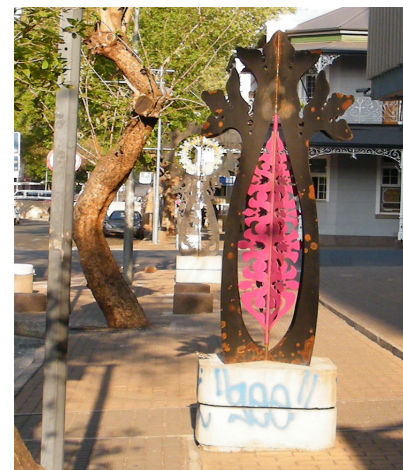
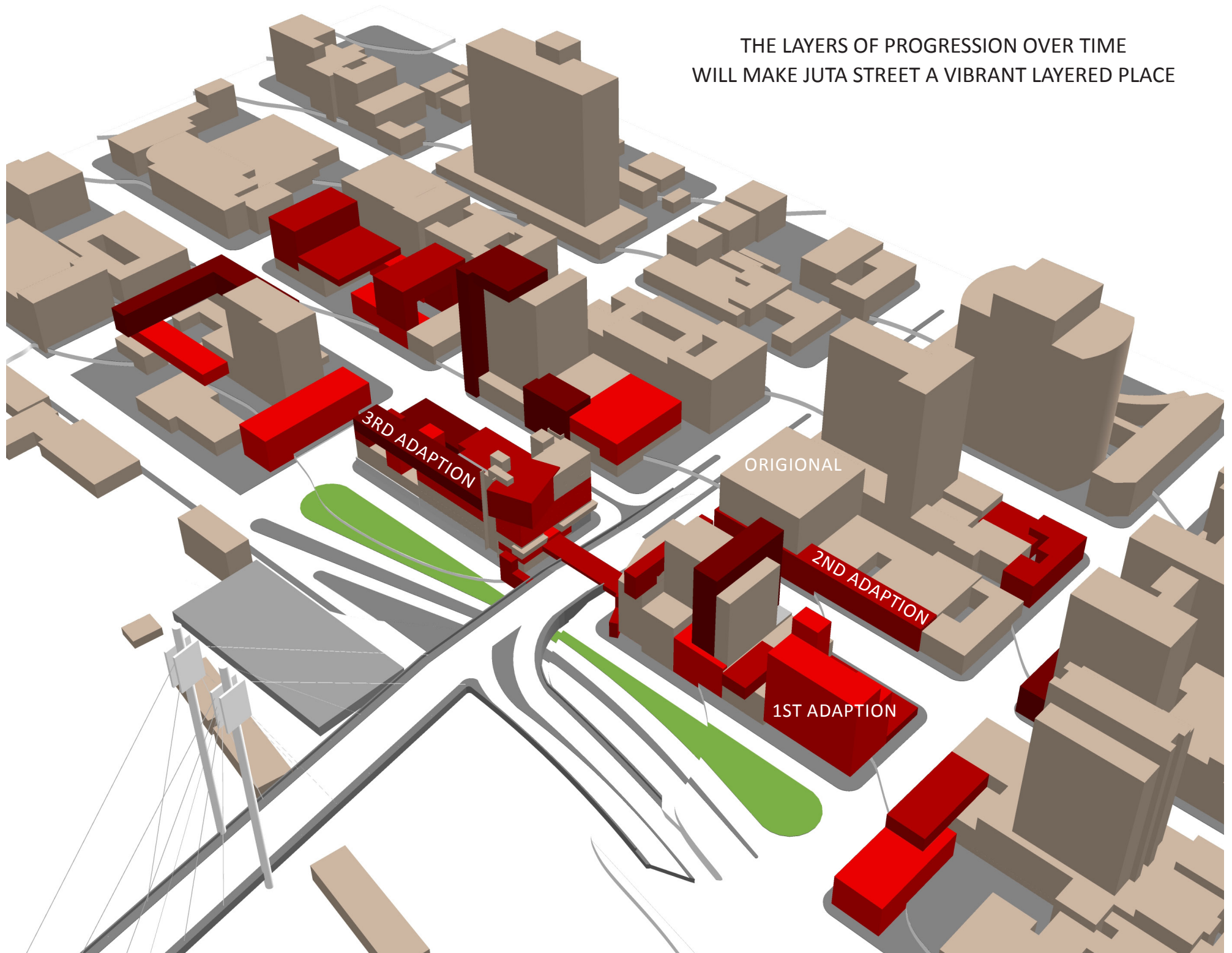
Juta Street as a cultural art street will strengthen the relationship between Newtown and Braamfontein through common intentions and activities. This will give the Nelson Mandela Bridge a stronger immediate connection and Juta Street will become a great addition to the cultural arch.

Claire Regnard is the designer of the laser cut metal tree public sculptures which have been placed along 5 blocks of Juta Street. The tree sculptures are approximately 3 metres tall with moving parts allowing pedestrians to interact with the art. The colourful trees begin to tie Juta Street together as they are the only common objects throughout the street





THE LAYERS OF PROGRESSION OVER TIME  
WILL MAKE JUTA STREET A VIBRANT LAYERED PLACE





# BUILDING ANALYSIS

5.0

EXISTING BUILDING AND THE SITE

>> 106 - 125

## 5.1 EXISTING BUILDING

RELATIONSHIP TO THE ROAD

## 5.2 THE CHARACTER OF PLACE

VIEWS

## 5.3 EXISTING BUILDING

MOVEMENT RELATIONSHIPS - INTERNAL & EXTERNAL

## 5.4 SOLAR STUDY

RELATIONSHIP TO THE SKY



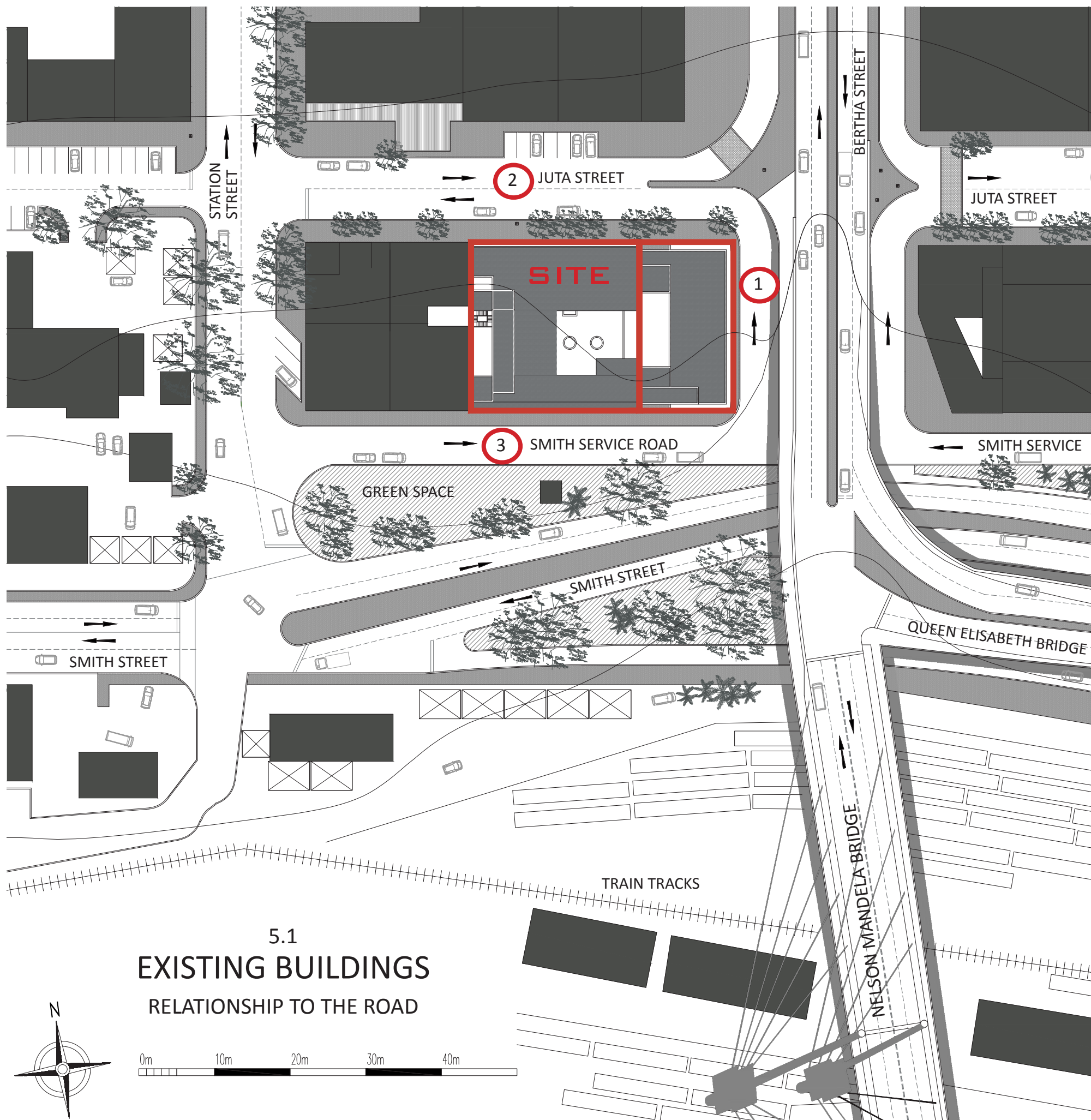




PRIME  
FOR  
SALE  
CONTACT VANDER  
083 872 1987

Audi Center





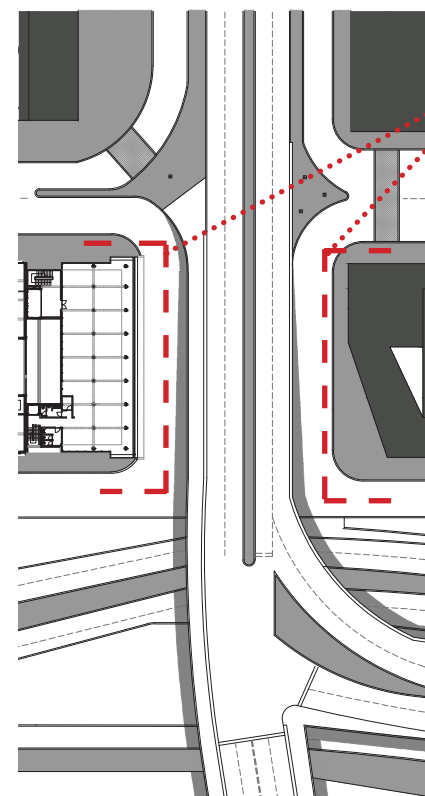
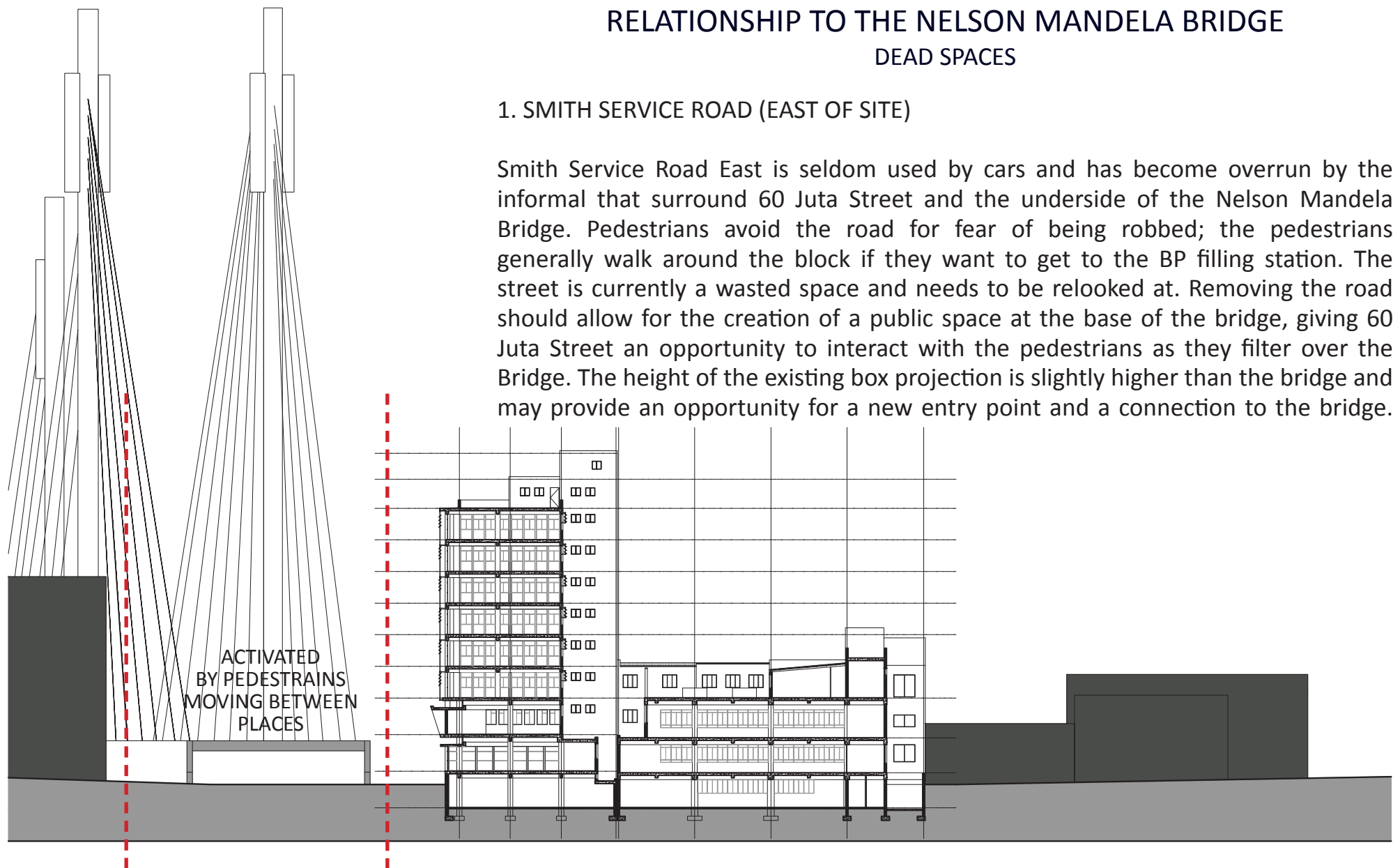


# RELATIONSHIP TO THE NELSON MANDELA BRIDGE

## DEAD SPACES

### 1. SMITH SERVICE ROAD (EAST OF SITE)

Smith Service Road East is seldom used by cars and has become overrun by the informal that surround 60 Juta Street and the underside of the Nelson Mandela Bridge. Pedestrians avoid the road for fear of being robbed; the pedestrians generally walk around the block if they want to get to the BP filling station. The street is currently a wasted space and needs to be relooked at. Removing the road should allow for the creation of a public space at the base of the bridge, giving 60 Juta Street an opportunity to interact with the pedestrians as they filter over the Bridge. The height of the existing box projection is slightly higher than the bridge and may provide an opportunity for a new entry point and a connection to the bridge.



The height of the Nelson Mandela Bridge has caused dead spaces on both sides of the bridge and could possibly be the reason for the buildings becoming vacant.



## RELATIONSHIP TO JUTA STREET

### NEED FOR SOCIAL INTERACTION



## 2. JUTA STREET ( NORTH OF SITE)

Juta Street East is currently activated by pedestrians moving back and forth from the taxi rank on the south side of the Nelson Mandela Bridge. Rosebank College to the east and Birnam College to the north of the site bring a continuous stream of students into the area. The Bridge Diner Cafe is in a great place to be activated by pedestrians and students, but it feels like the diner could benefit from another food activity to create a social atmosphere within the street. The site has no interaction with the street and becomes a dead edge to a highly active street.





## RELATIONSHIP TO SMITH SERVICE ROAD THE INFORMAL



### 3. SMITH SERVICE ROAD (SOUTH OF SITE)

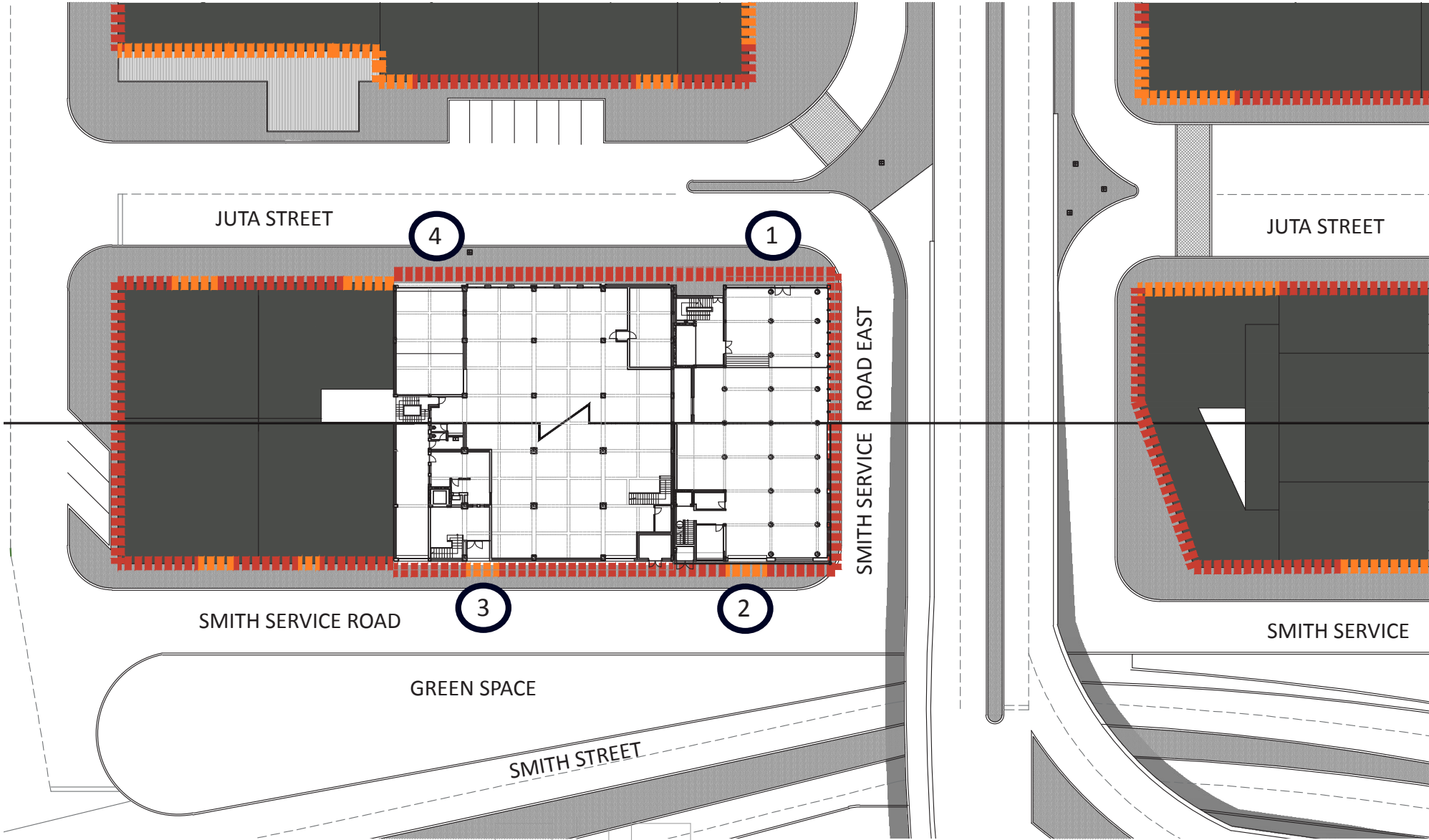
Smith Service Road is currently used by informal and the homeless. The site is in the perfect position to activate the green space with an activity that is related to the nature of the road. The existing building has no relationship to the road and is completely shut off. The underside of the Bridge is currently closed off by a fence, blocking the connection under the bridge which was caused by the homeless camping under the bridge. I honestly feel that everyone has a right to have a place to retire and maybe the design could show some sensitivity to the less fortunate.



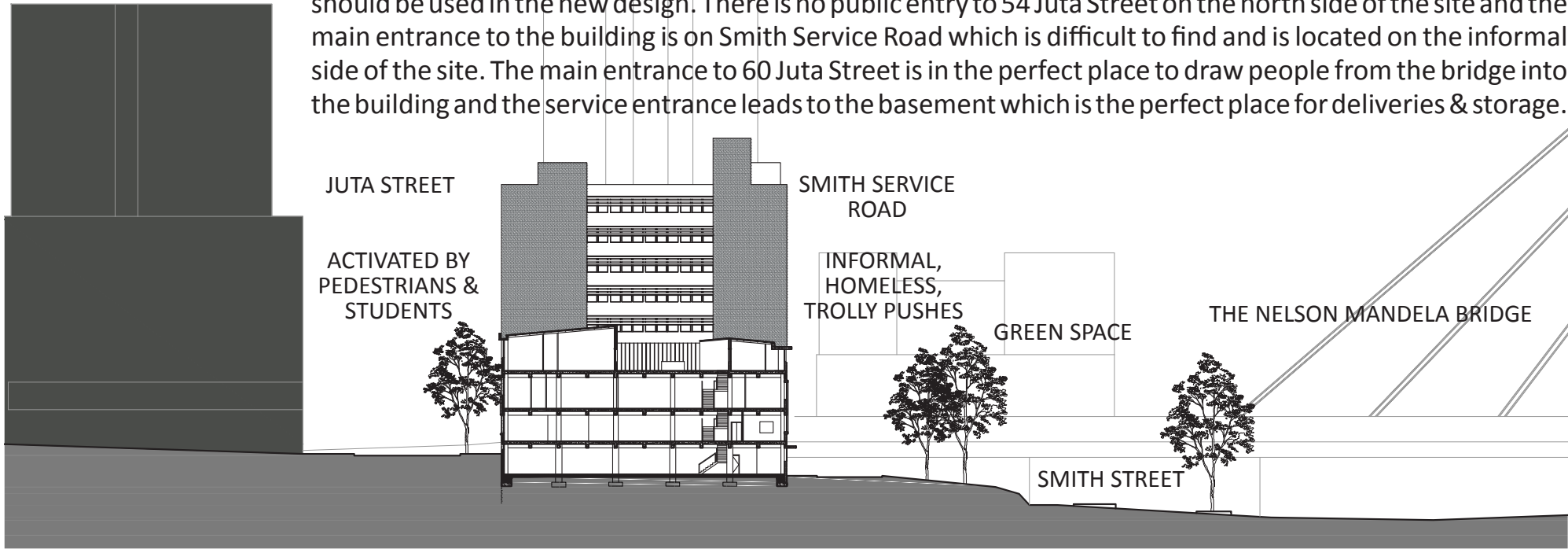
FIGURE 99



BUILDING EDGES & POINTS OF ENTRY  
JUTA STREET & SMITH SERVICE ROAD



In order to maintain the memory of the existing building and maintain orientation, the existing entry points should be used in the new design. There is no public entry to 54 Jutta Street on the north side of the site and the main entrance to the building is on Smith Service Road which is difficult to find and is located on the informal side of the site. The main entrance to 60 Jutta Street is in the perfect place to draw people from the bridge into the building and the service entrance leads to the basement which is the perfect place for deliveries & storage.







1. MAIN ENTRANCE TO 60 JUTA



2. SERVICE ENTRANCE 60 JUTA



3. MAIN ENTRANCE 54 JUTA



4. SERVICE ENTRANCE 54 JUTA





FIRST FLOOR  
GROUND FLOOR

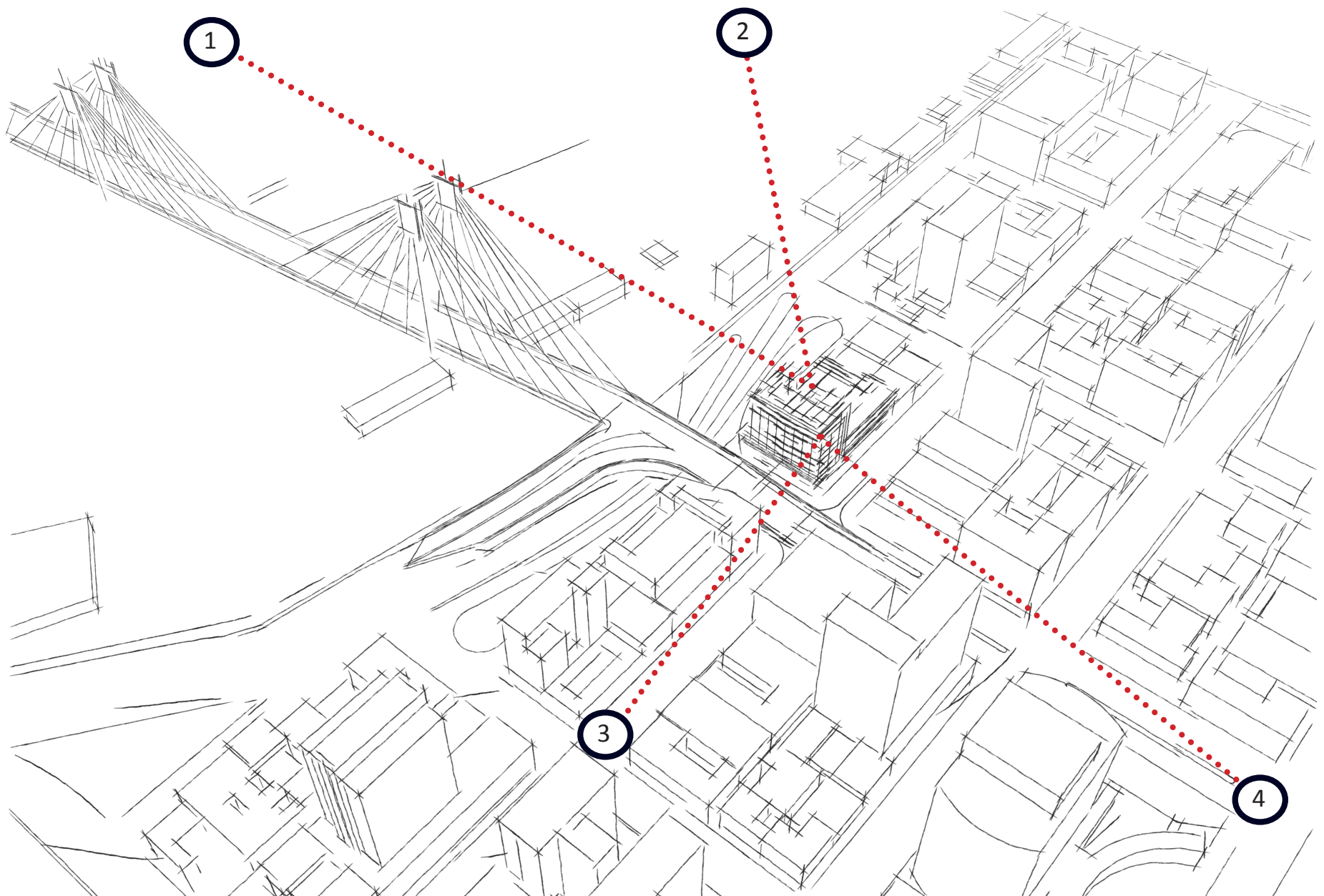
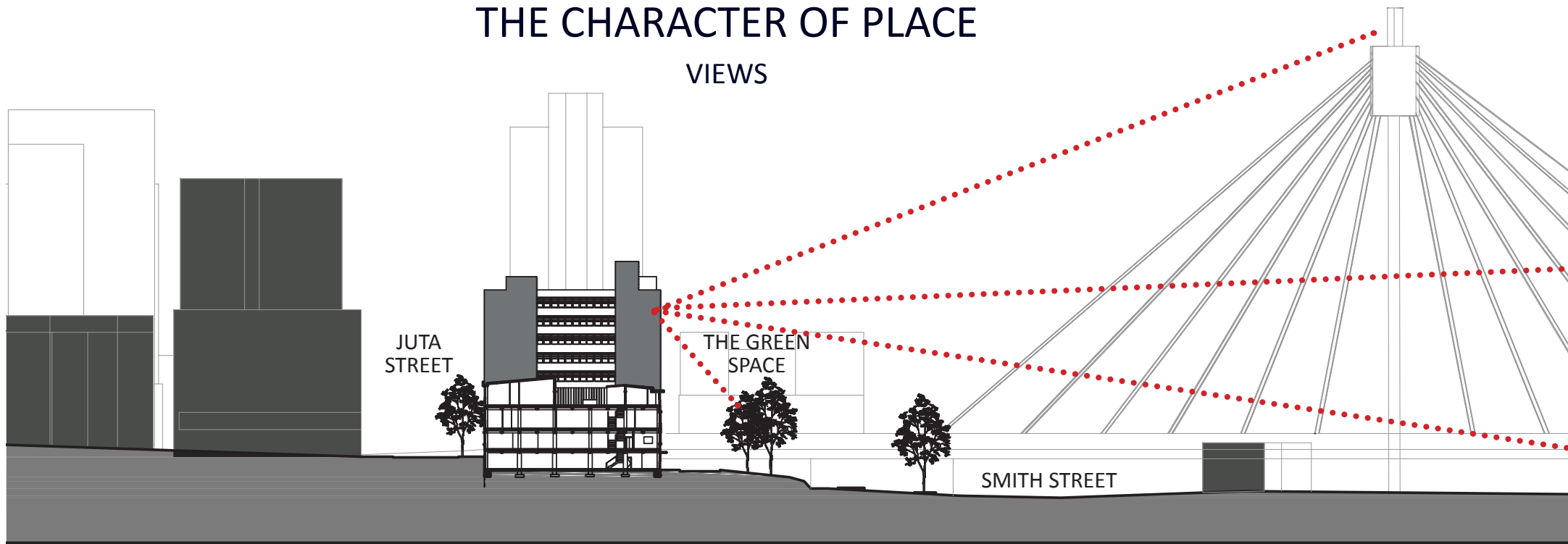
Informal early morning  
camping by 60 Juta's main  
entrance





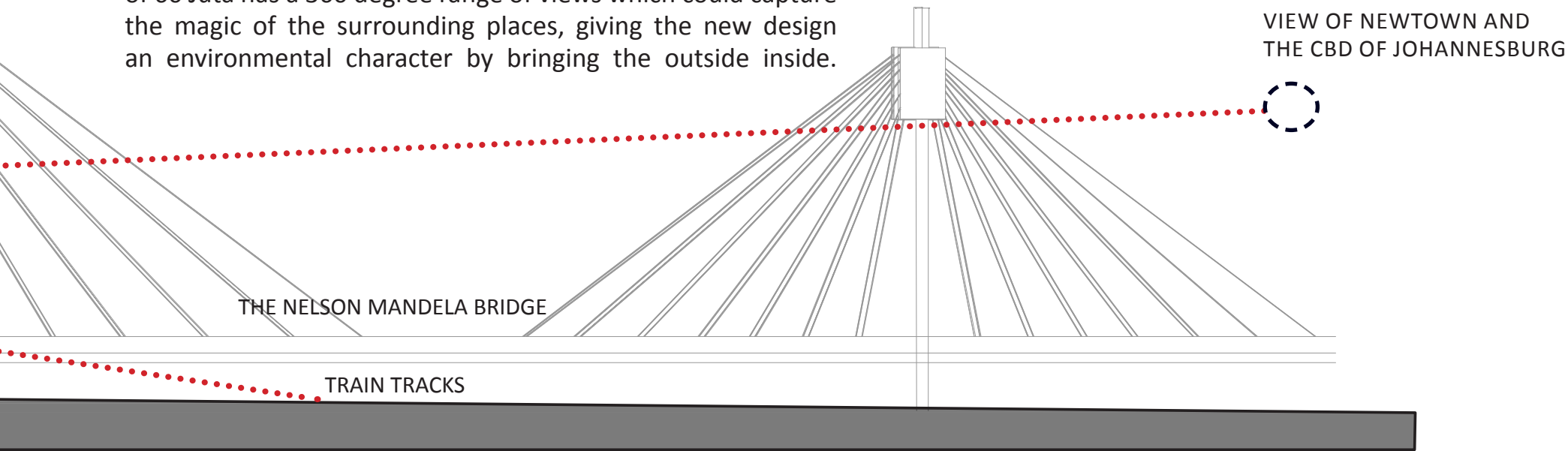


## 5.2 THE CHARACTER OF PLACE VIEWS





The site is in a prime location to capture views of the Nelson Mandela Bridge, which looks different during the day compared to the evening. The new design should try to capture views of the bridge, train tracks, Bertha Street and Juta Street. The top levels of 60 Juta has a 360 degree range of views which could capture the magic of the surrounding places, giving the new design an environmental character by bringing the outside inside.



1. NELSON MANDELA BRIDGE AND THE CBD



2. VIEW OF GREEN SPACE & THE TRAIN TRACKS





3. JUTA STREET



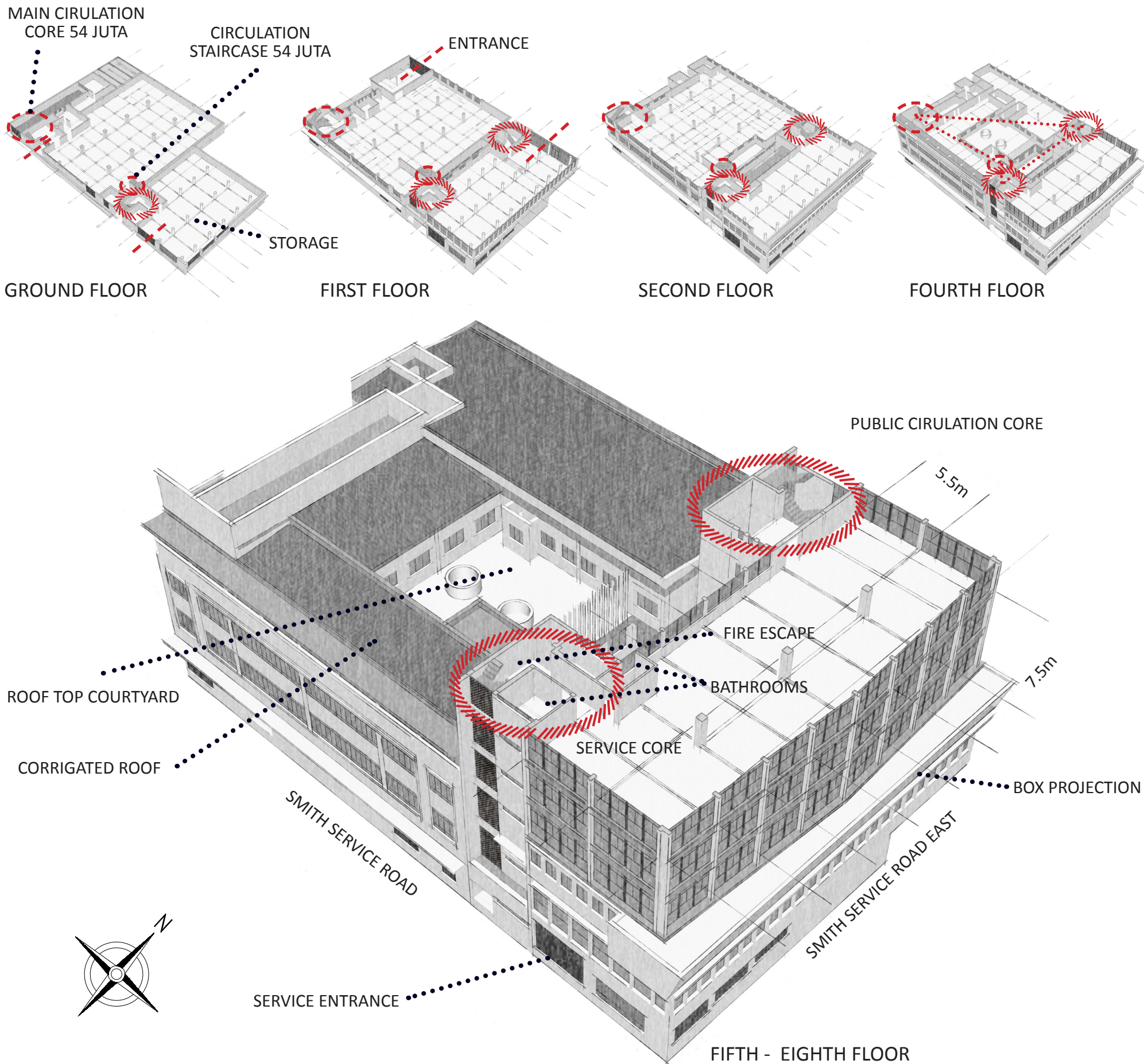


4. BERTHA STREET



5.3  
EXISTING BUILDING

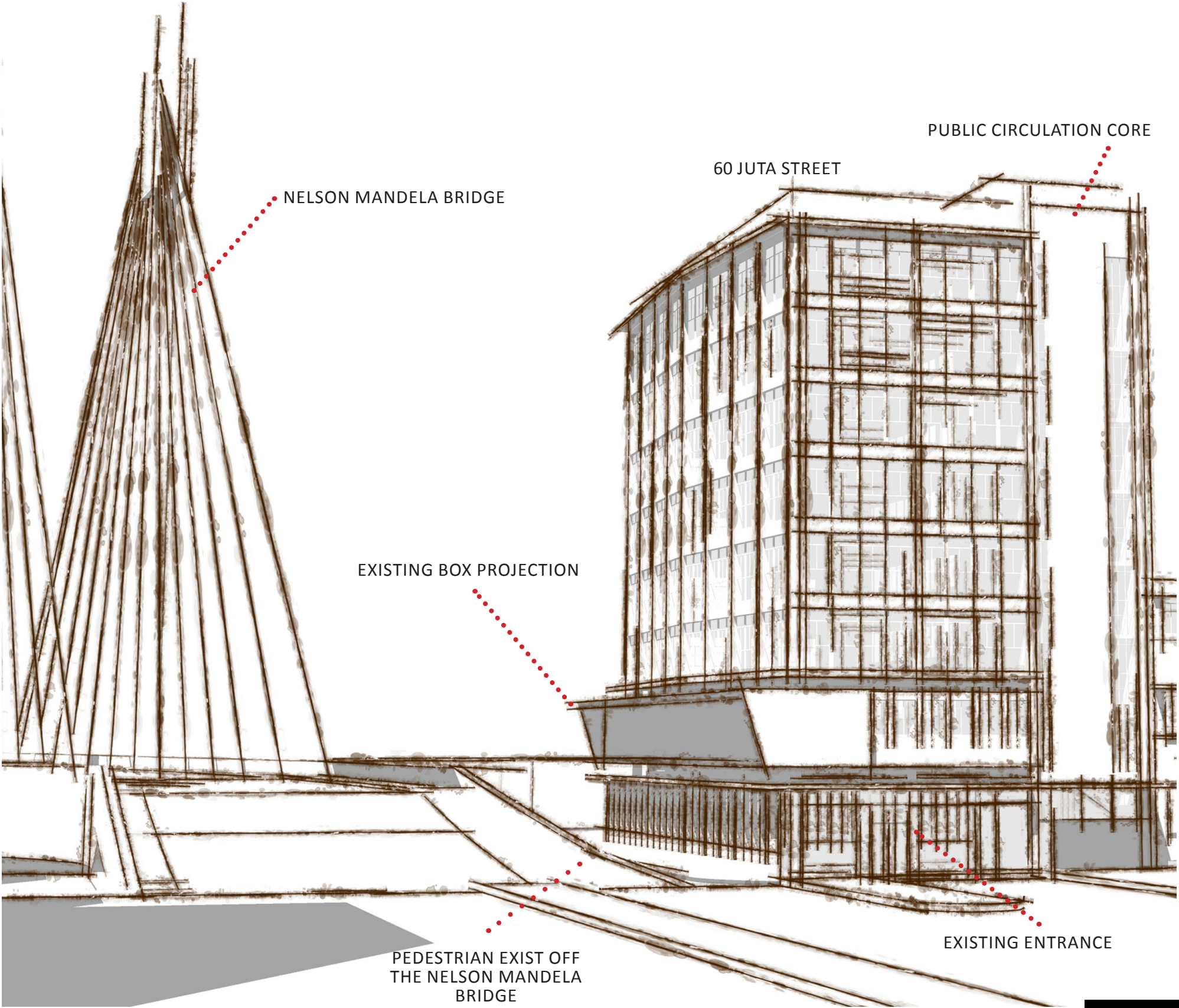
MOVEMENT RELATIONSHIPS INTERNAL & EXTERNAL





60 Juta Street has two main circulation cores: one of which is a public circulation core and the other a service core with fire stairs and bathrooms. There are two different structures used in 60 Juta: the bottom levels work on a grid structure of 5.5 meters and the top box structure on a 7.5 meter grid. 54 Juta Street has one circulation core with a lift by the main entrance on Smith

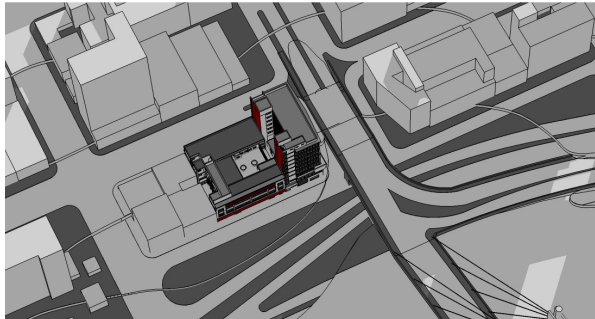
Service Road and a circulation stair case located next to 60 Juta service core. The building structure works on a grid of a 7.5 meter grid and both building structures are cast out of concrete. The new design needs to tie the two buildings



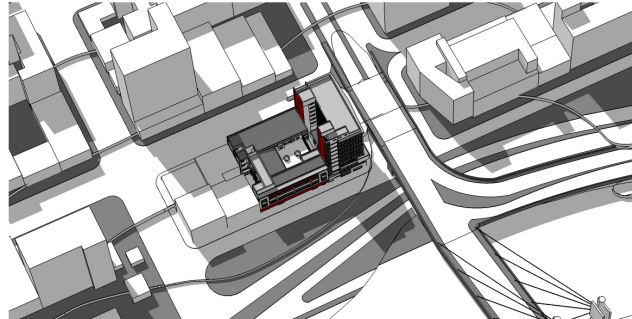


## 5.4 SOLAR STUDY RELATIONSHIP TO THE SKY

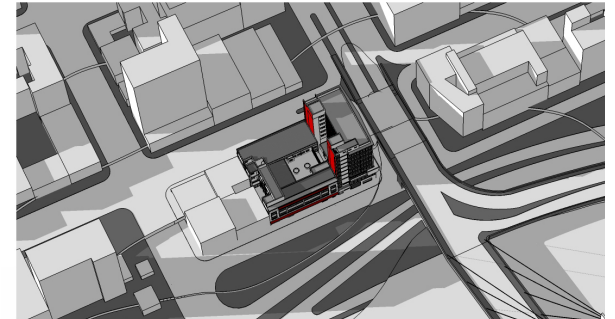
21 JUNE - WINTER SOLSTICE



8.00

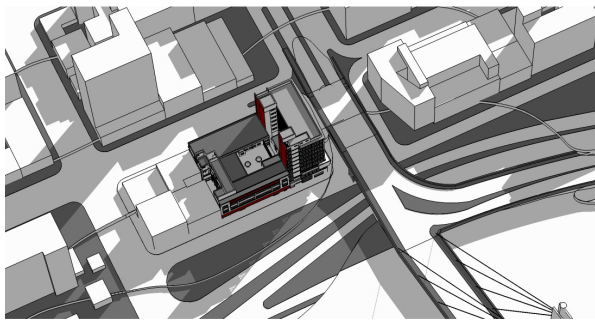


12.00

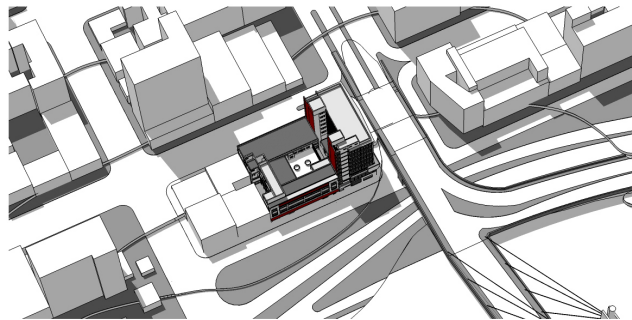


16.00

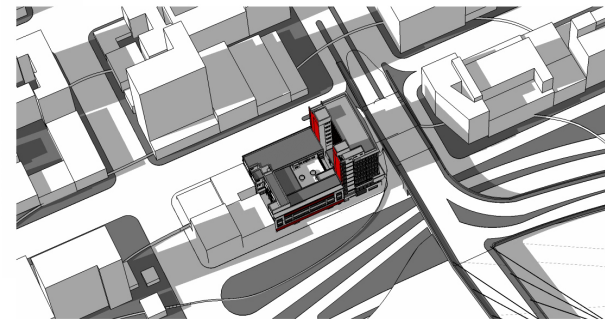
22 SEPTEMBER - SPRING EQUINOX / 20 MARCH - AUTUMN EQUINOX



8.00

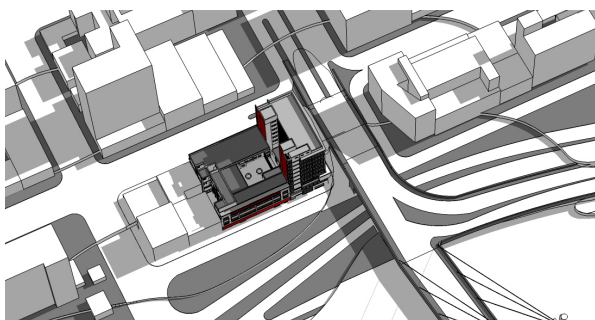


12.00

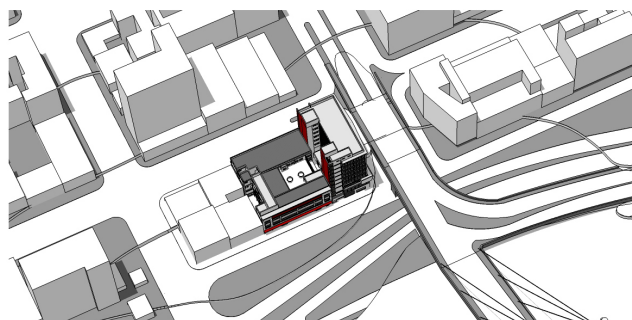


16.00

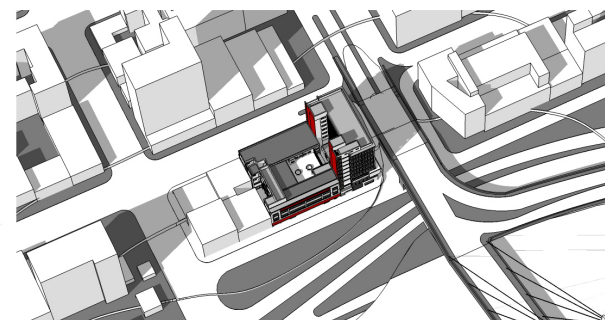
22 DECEMBER - SUMMER SOLSTICE



8.00



12.00



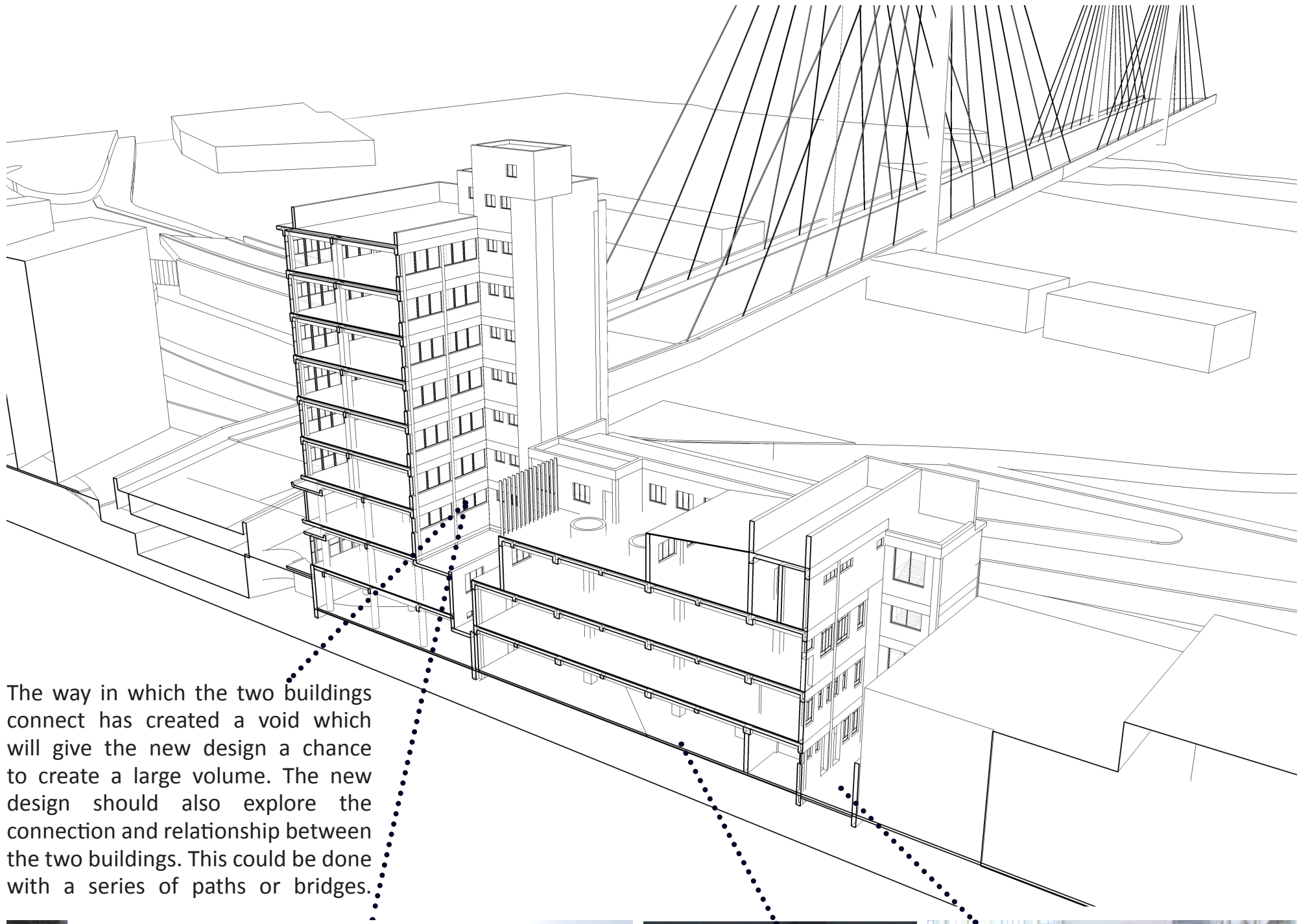
16.00



54 JUTA STREET NATURAL LIGHT  
PROBLEMS

The solar analysis was created in order to pinpoint building shadows encroaching in the proposed site as well as to understand the existing building's shadows in relation to the green space behind the building. The 9 storey section of the building does not affect the green space, except in winter during the early morning, a time in which I doubt anyone would brave the cold to be outside. 54 Jutta is 30 metres in width and has a major problem with natural light; an atrium which uses the existing roof garden outline should be explored in the design phase in order for the building to maintain orientation for the inhabitants as to the time of day.



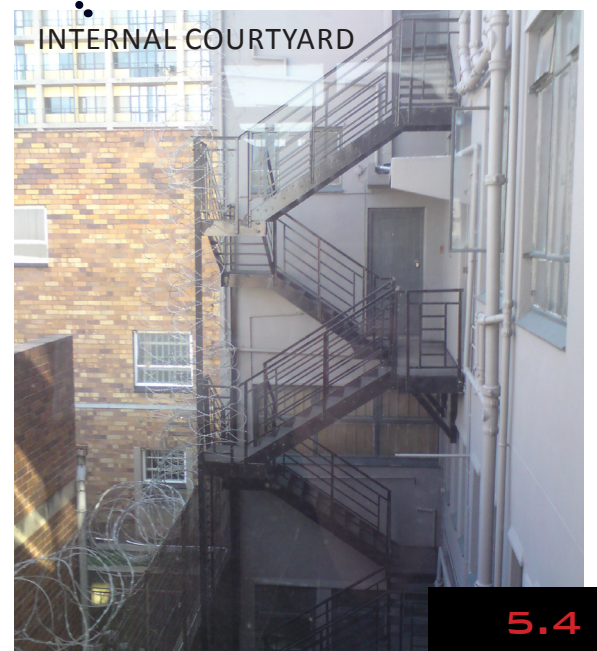


The way in which the two buildings connect has created a void which will give the new design a chance to create a large volume. The new design should also explore the connection and relationship between the two buildings. This could be done with a series of paths or bridges.

VIEW FROM THE BRIDGE DINER



INTERNAL COURTYARD



BASEMENT 54 JUTA STREET







PUBLIC CIRCULATION

STATION ST

WE DO FUNERALS  
FOR LOCAL & FOREIGN  
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TEL 011 614 4369

**24HRS - 7DAYS**

TODAY'S HOME  
FUNERAL SERVICE

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# CONCEPT & DESIGN TOOL 6.0

LAYERING SPACE

>> 126 - 131

## 6.1 THE CONCEPT

THE CREATION OF A PLACE WHICH BECOMES A PALIMPSEST  
AS A RESULT OF THE ENVIRONMENT







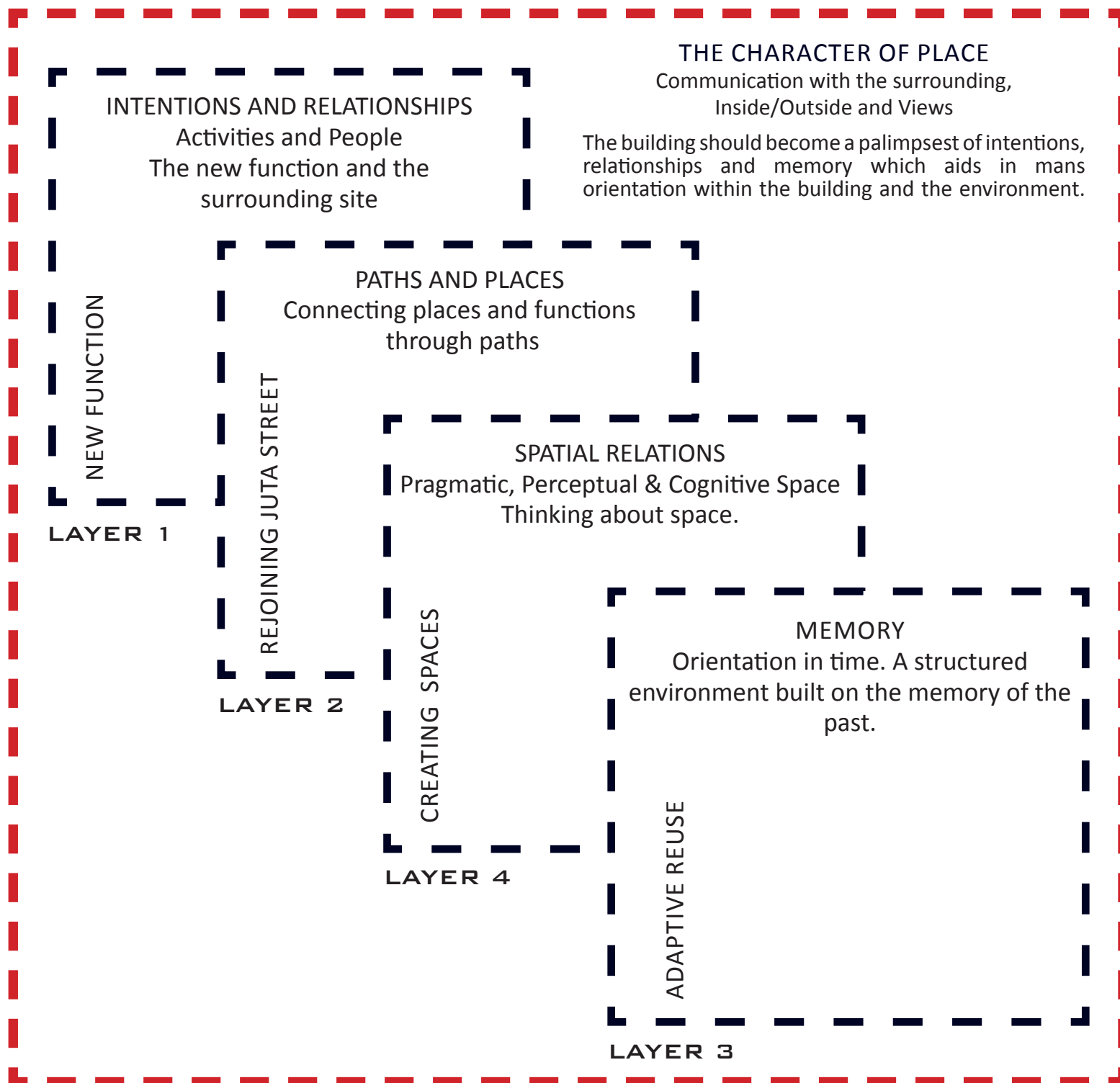


# THE CONCEPT

## THE CREATION OF A PLACE WHICH BECOMES A PALIMPSEST AS A RESULT OF THE ENVIRONMENT

The proposed vacant building must become a place which is integrated with environment and aids in man's orientation within the city. Place cannot be understood in isolation: all layers within the environment are experienced simultaneously and constitute the real character of place. The design should become a palimpsest of intentions, relationships and memory which resembles the surrounding environments structure, bringing the inside - outside and vice versa.

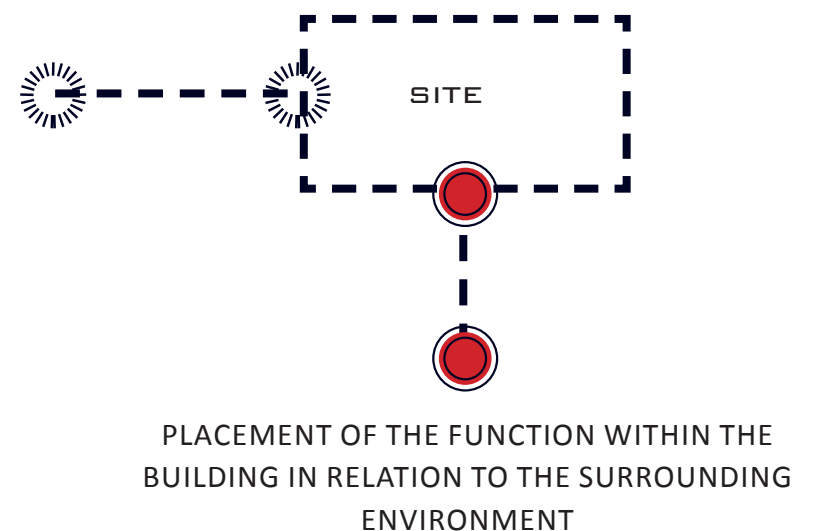
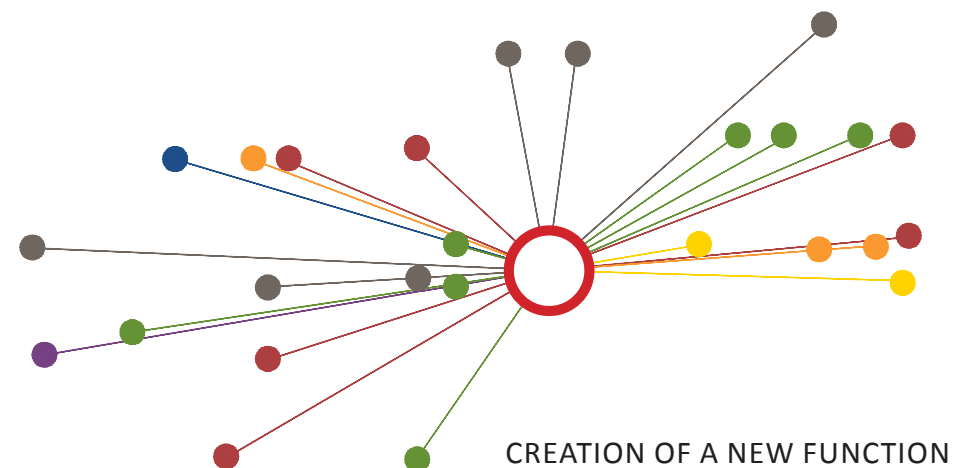
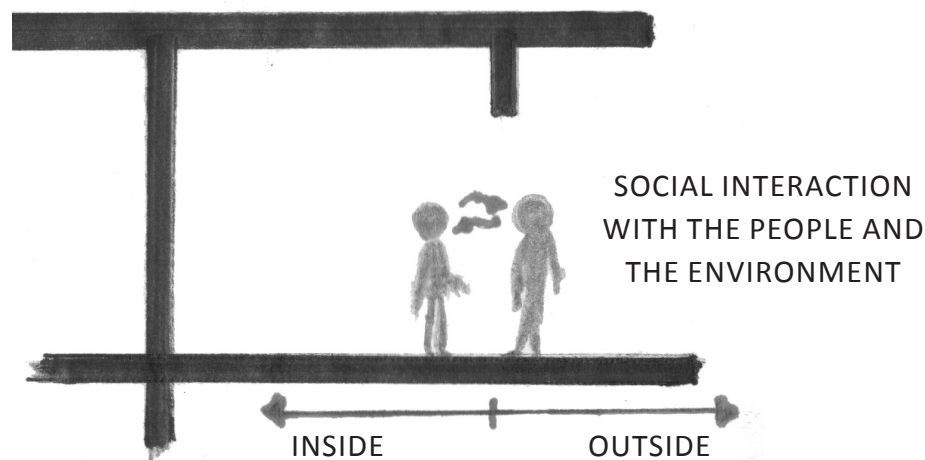
### LAYER 5 - A RESULT OF ALL THE LAYER INTERACTING WITH EACH OTHER





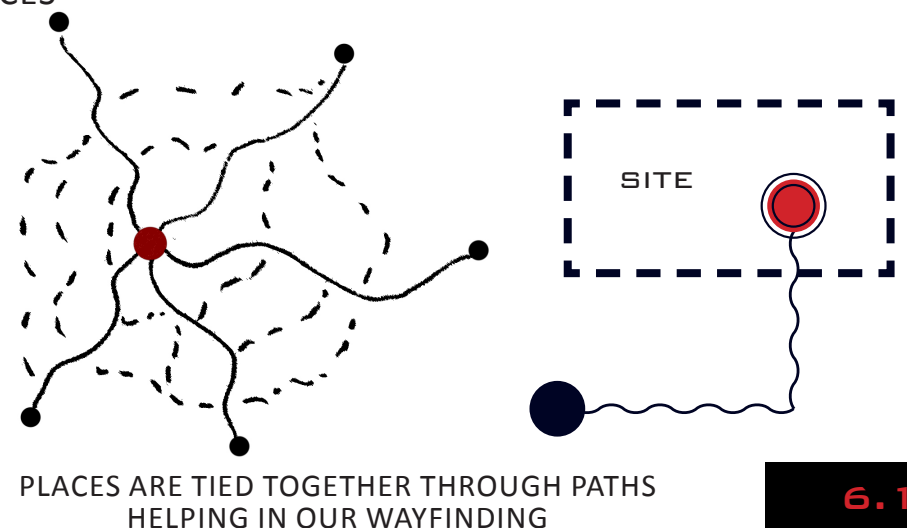
## LAYER 1 RELATIONSHIPS & INTENTIONS

The city is considered a palimpsest of intentions and dreams of what the future should be that have all come together to form relationships, strengthening each other's profits and goals. The building will need people in order for the existing building to not be vacant. An activity is required that is in the common interests of the area which in the case of Braamfontein is a diverse multicultural place layered by intentions, activities and transport methods. The building must look at its relationship to other places of activity, the people and streets, and try to strengthen the orientation of Juta Street as an art street. The art street will then form part of the cultural arch, allowing for orientation to take place within the immediate context and as a whole. This will create a stronger relationship between Newtown and Braamfontein, allowing them to become a multicultural art gateway will reflects the diverse nature of the city's environment and people. This will then attract more people to the activities taking place and if something takes place, it becomes the point of departure to other places.



## LAYER 2 PATHS & PLACES

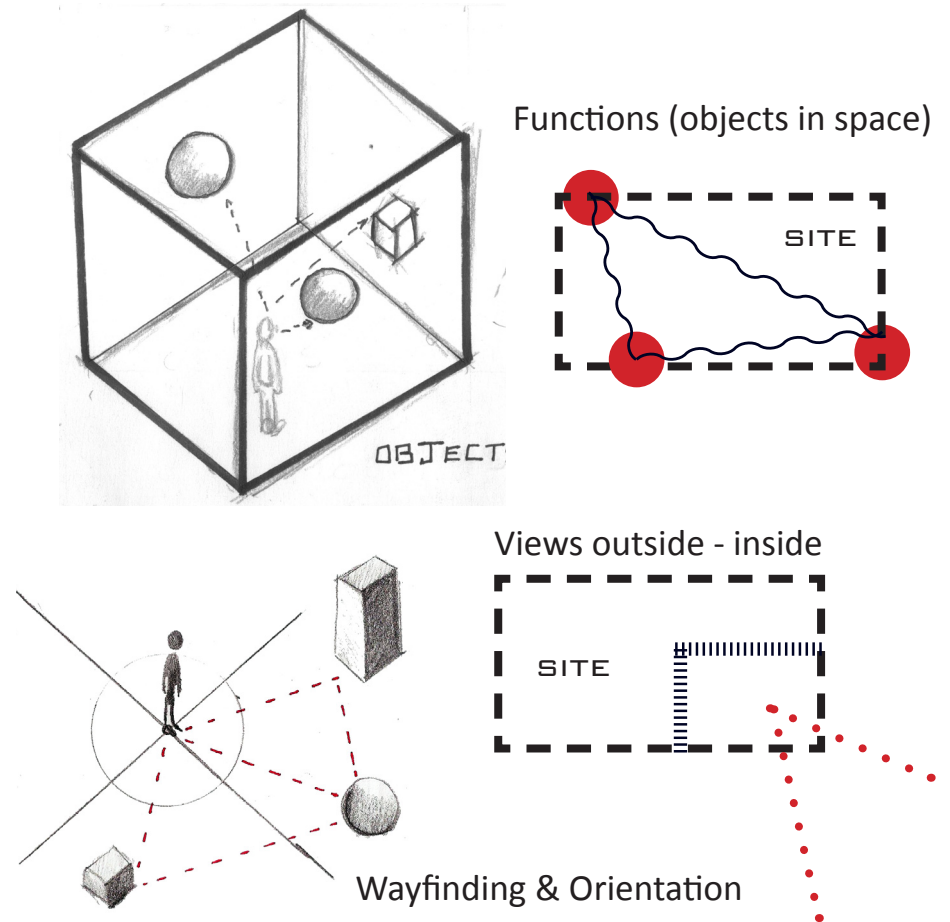
A Place can imply inside and outside. People move between places in order to carry out activities as they continue to their place of retirement, generally their homes. The concept needs to explore the relationships between places through paths. The Nelson Mandela Bridge is restricting movement across Juta Street. Creating safe paths for movement will facilitate orientation and begin a network which could potentially rejoin Juta Street and create new opportunities for future development.





### LAYER 3 SPATIAL RELATIONS

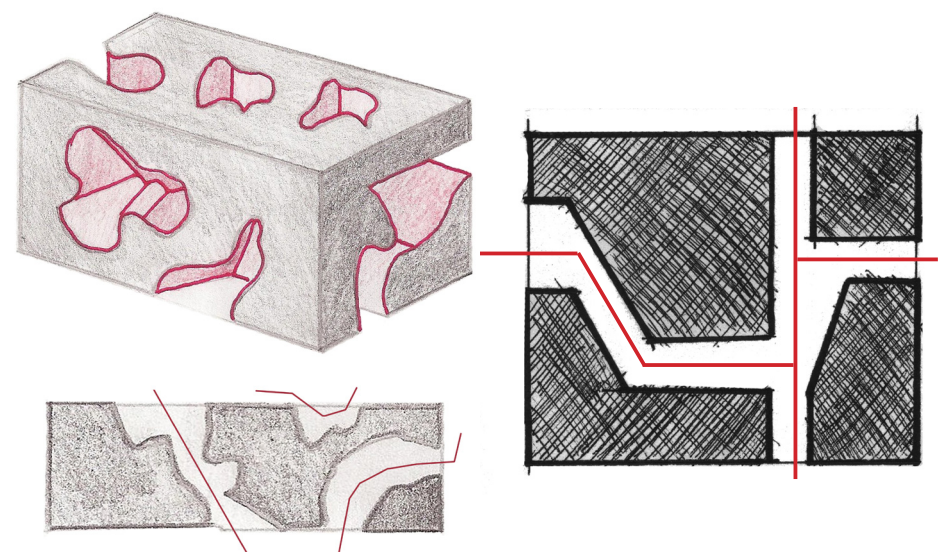
When thinking about space, we structure it to accommodate our intentions, making space efficient through proximity and relationships between objects. Like the structure of the environment aiding in our orientation, the building should technically provide the same tools in helping people orientate themselves inside the building. If places are activities in the city which are objects for orientation, for example landmarks, can the functions in the building not become places structured and brought together by paths? If the functions in the building became objects in space, placed at points of orientation, for example the entrance, this could aid in our way-finding and orientation from the outside. But this does not help orientation within the building; the objects or functions need to both communicate with the surroundings and within the building. This will create a relationship between inside and outside, helping a person make a mental map of his position in the environment. This is where views as to how we can bring the inside outside and create a dialogue between the building and the surrounding place become important. The new design should communicate its function with the surroundings, thus helping man act on his intentions.



### LAYER 4 MEMORY

The building should retain memory of the past, giving people a sense of orientation through a structured environment. In adaptive reuse they talk of the deductive process: first looking at the compatibilities of the new function with the existing structure and then deducing what should be kept and added. Memory of the building is hard to tackle as it has to do with the mind and as such, a method is required. The deductive process could be looked at like a cave, carving requirements that man needs in order to orientate himself to a specific activity which is structured through spatial relationships. The carving process will allow for memory to be kept and will prevent unnecessary removal of the old building's elements that can remain in harmony with the new design. The activities require space as well as movement through space, so the deductive process could also be looked at as a method of carving paths between different functions. The building must have an environmental character and capture the surrounding places through the carving of views and light, thus maintaining orientation both inside and outside the building. Using the deductive process will hopefully expand on the current thoughts of adaptive reuse,

which could help in a potential methodology for the future. The Building should become a layered object, both new and old. This can be explored through the use of materials and possible colours to create the juxtaposition between time and space.

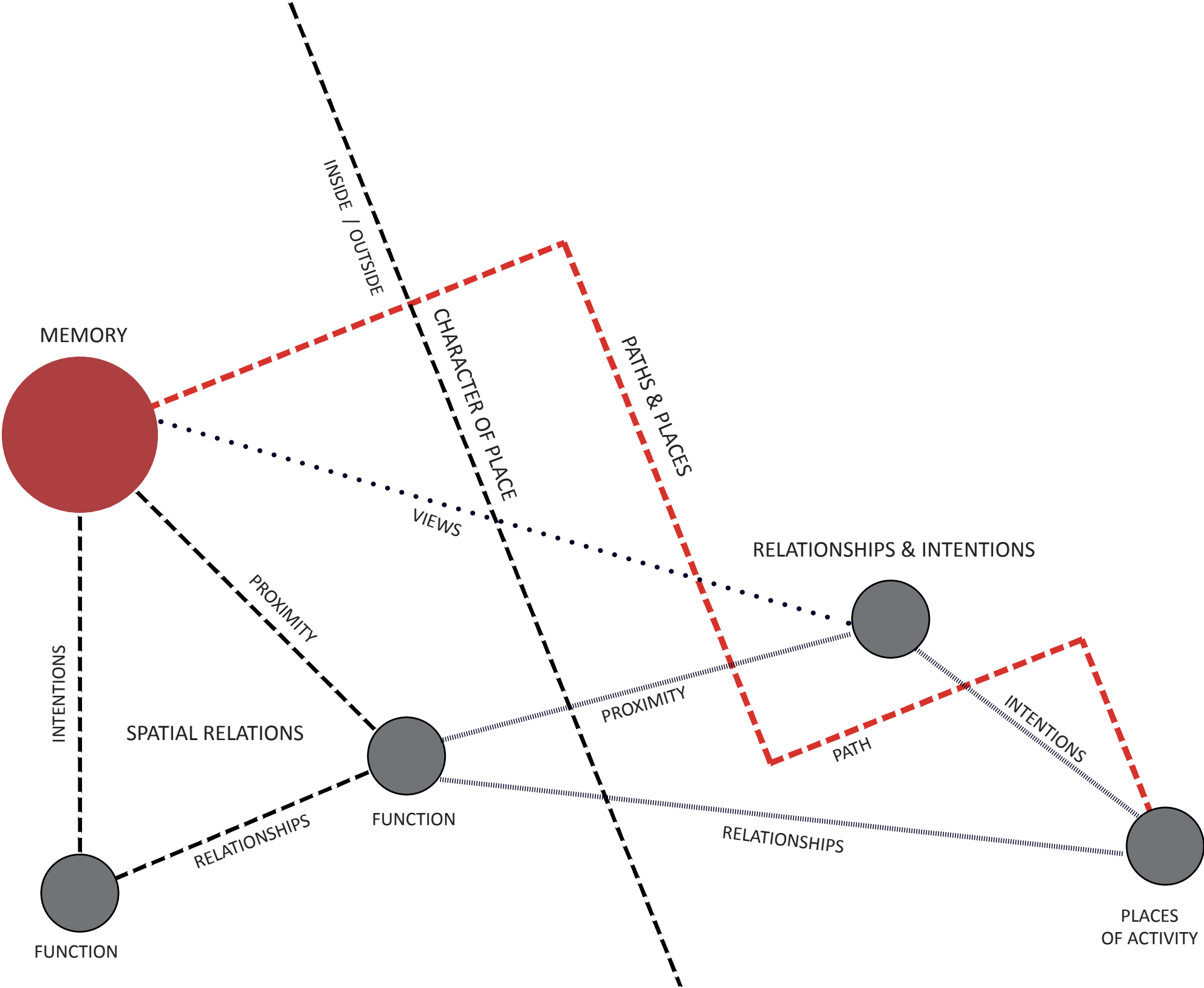


The deductive Process, carving paths, light and views



THE DESIGN TOOL

INSIDE - OUTSIDE - THE CONCEPT OF PLACE





# DESIGN TOOL APPLICATION 7.0

THE PROCESS

>> 132 - 179

## 7.1 LAYER 1

CREATING A NEW FUNCTION

## 7.2 LAYER 2

PATHS & PLACES

## 7.3 LAYER 3

SPATIAL RELATIONS

## 7.4 LAYER 4

MEMORY

## 7.5 LAYER 5

COMBINING THE LAYERS TO FORM THE CHARACTER OF PLACE



FIGURE 101



WELCOME TO JOBURG ART CITY 2010  
WORLD PREMIERE ANNUAL EXHIBITION

# 'Long Live the Dead Queen'

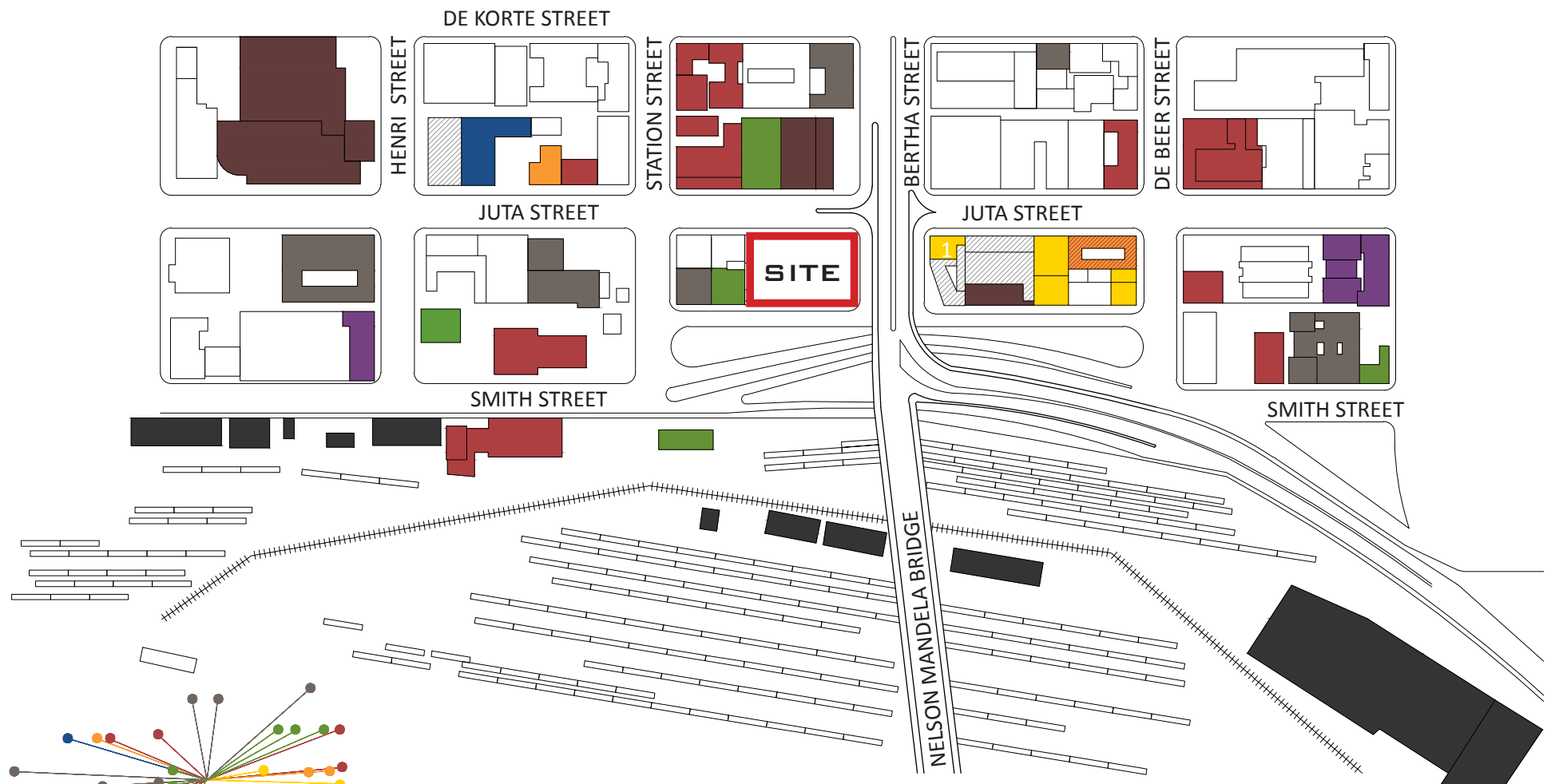
by Mary Sibande





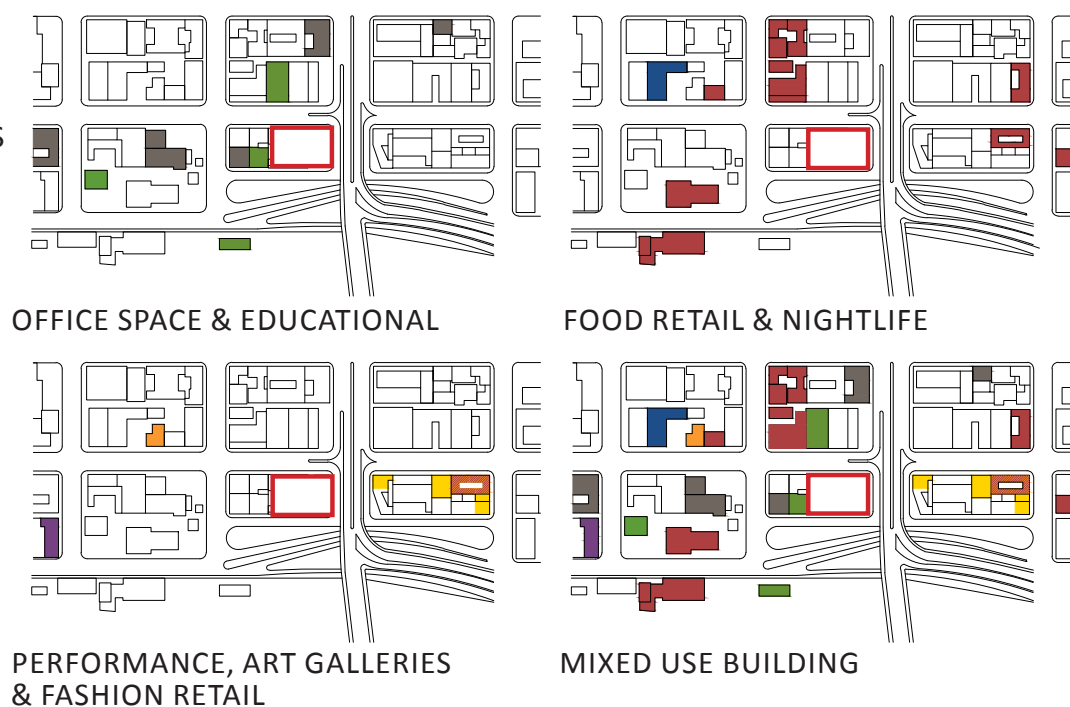
# 7.1 LAYER 1

## CREATING A NEW FUNCTION



## CREATING RELATIONSHIPS

- ART GALLERIES
- DESIGNER SHOPS
- PERFORMANCE
- FOOD & RETAIL
- OFFICE SPACE
- NIGHT LIFE
- EDUCATIONAL



What function could the vacant building become that will relate to what is happening in Jutta Street at present and that will become a part of the cultural arch? The east of Jutta Street is mixed with art galleries and fashion shops and cultural activities. The west of Jutta is busier, not because of the surrounding functions, but because of the pedestrians moving across the Nelson Mandela Bridge towards their destinations. The building should become a mixed use building so as not to crush the surroundings with one large function. The new function should relate to the art and culture happening on the East of Jutta and at the same time strengthen the activities happening around the site currently.





WELCOME TO JOBURG ART CITY

SITE POTENTIAL

A MULTICULTURAL PLATFORM

CONNECTING JUTA STREET THROUGH COMMON INTENTIONS

BECOME AN ANCHOR FOR THE SURROUNDING PLACES

A PLACE FOR MULTIPLE ACTIVITIES WHICH CREATE RELATIONSHIPS  
AND OPPORTUNITIES FOR THE SURROUNDING PLACES AND PEOPLE  
ENABLING POTENTIAL FUTURE GROWTH

AN IMPORTANT POINT OF ARRIVAL AND DEPARTURE BETWEEN  
BRAAMFONTEIN AND NEWTOWN.

THE SITE CAN BECOME A RESTING PLACE ON ROUTE TO OTHER  
PLACES

POTENTIAL FOR A DAY AND NIGHT ACTIVITIES



THE PEOPLE OF BRAAMFONTEIN  
DEVELOPING THE NEW FUNCTION

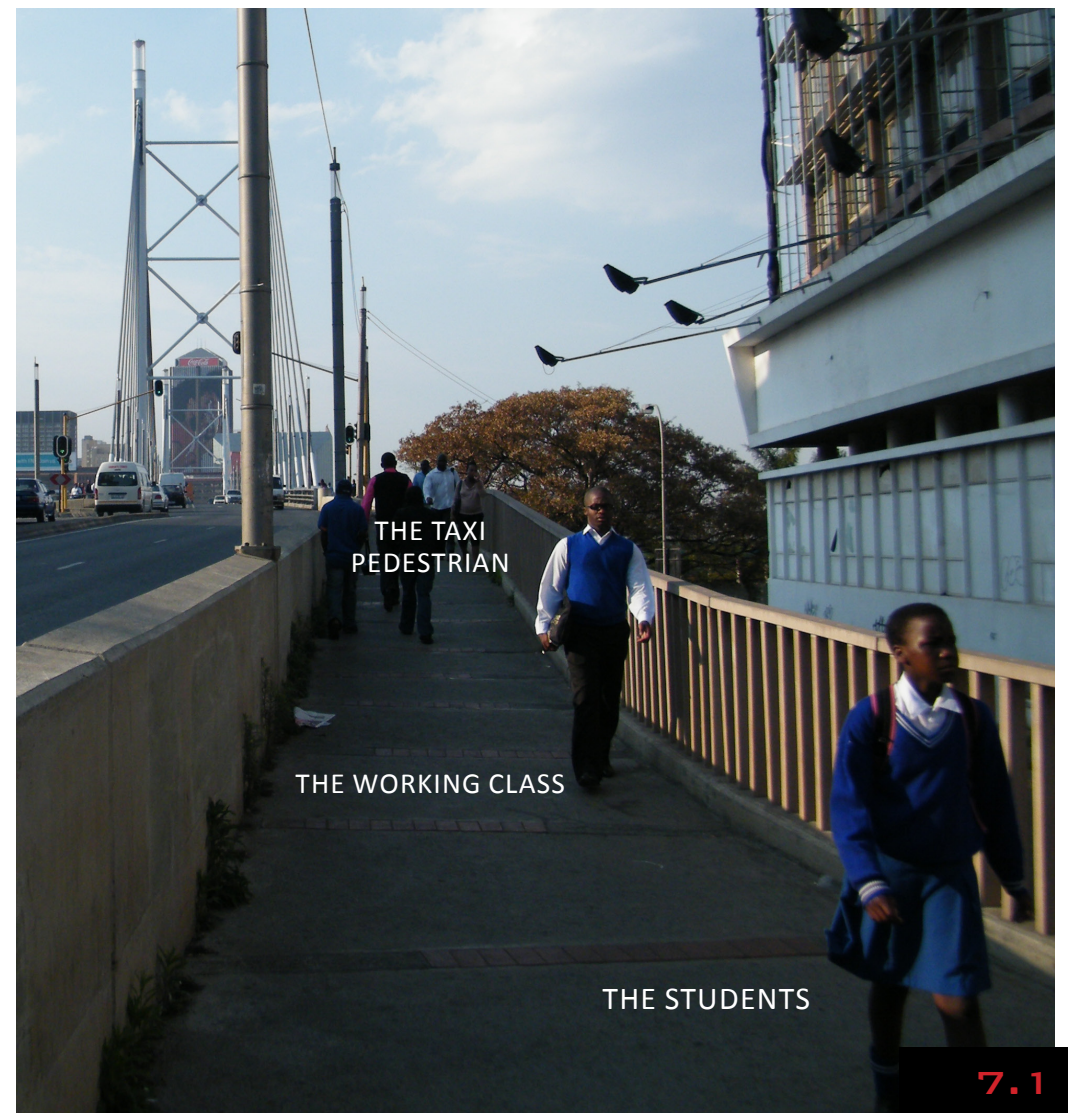
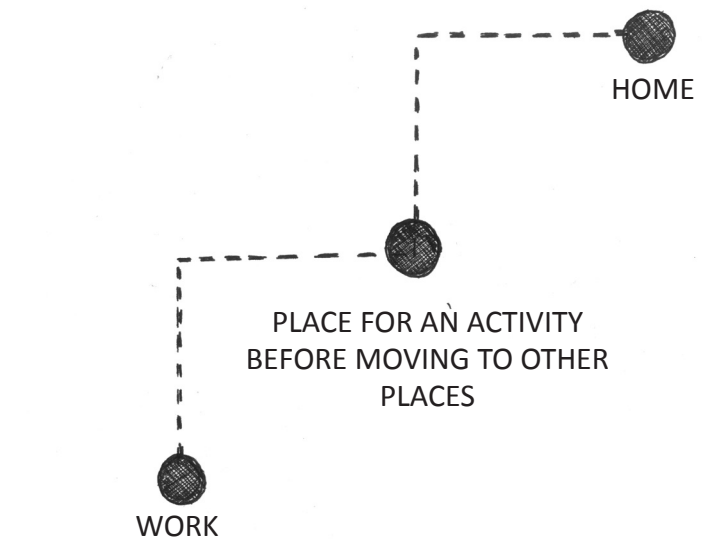






## THE TAXI PEDESTRAIN

The Nelson Mandela bridge is activated by pedestrians throughout the day. The site is in a prime location to be activated by people on the move.





## THE INFORMAL

There is a need for job creation. The informal need an opportunity to create money and a market could assist in the informal making and selling craft, which they can make from unwanted materials. Pikitup is opposite the road and could become involved with the sourcing of materials. The market could also assist with basic business skills to help the homeless with skills for their future well being.



## THE WORKING CLASS

There are a lot of young individuals and businesses that need small office spaces within Braamfontein. The offices can become a platform for which small businesses can grow through the potential of creating new relationships and networks within the building and the surrounding site.



FIGURE 69



## THE CREATIVE

Johannesburg is an art city and there are a lot of people interested in viewing art and partaking in gatherings to view new art collections by upcoming artists. The people of Braamfontein have a large interest in fashion and fashion shops. This will make a great relationship to the creative people from the university and Newtown.



FIGURE 70

## THE CULTURAL

The cultural love a sense of community and enjoy a common place for gathering for social activities like dining, music and entertainment. The cultural from Newtown and Braamfontein can start a dialogue with people moving from different events and shows from which they can walk over the Nelson Mandela Bridge and enjoy the excitement of getting to their destination.



FIGURE 71



FIGURE 72







FIGURE 73



FIGURE 74



FIGURE 75



FIGURE 76

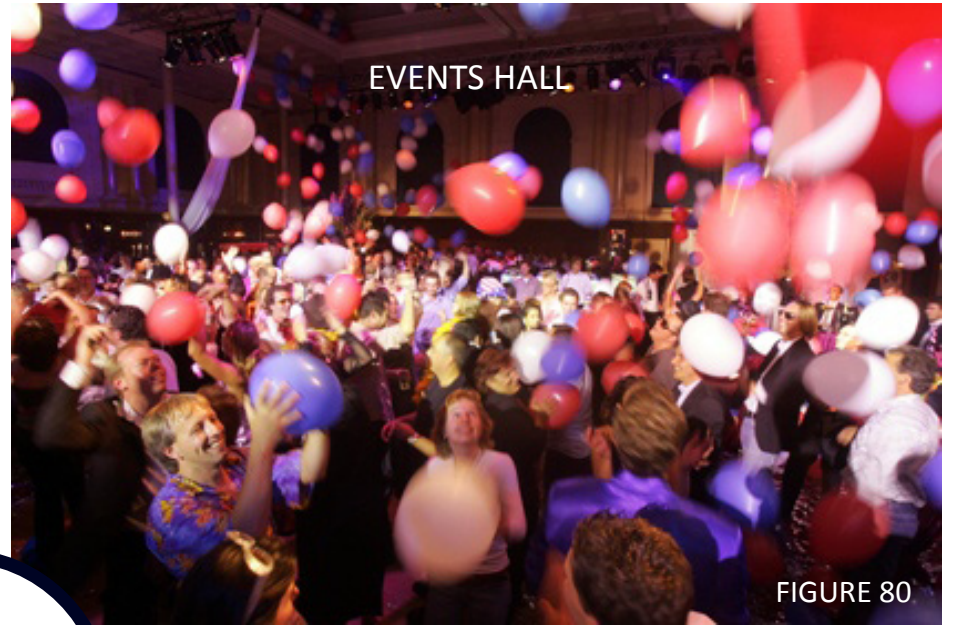


FIGURE 77



FIGURE 78





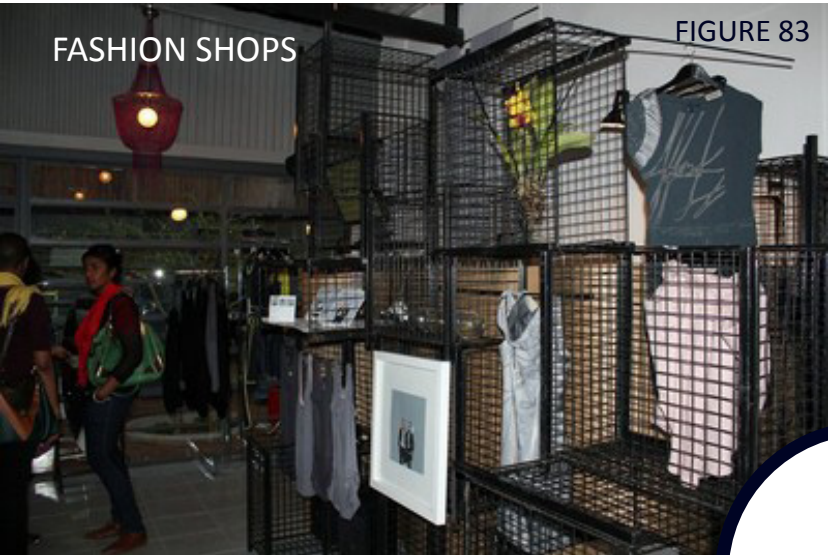
THE CULTURAL

60 JUTA  
LAYERING  
PEOPLE &  
FUNCTIONS

THE  
WORKING CLASS







THE CREATIVE



THE PEDESTRIAN



THE INFORMAL



## DAY ACTIVITIES

MARKET

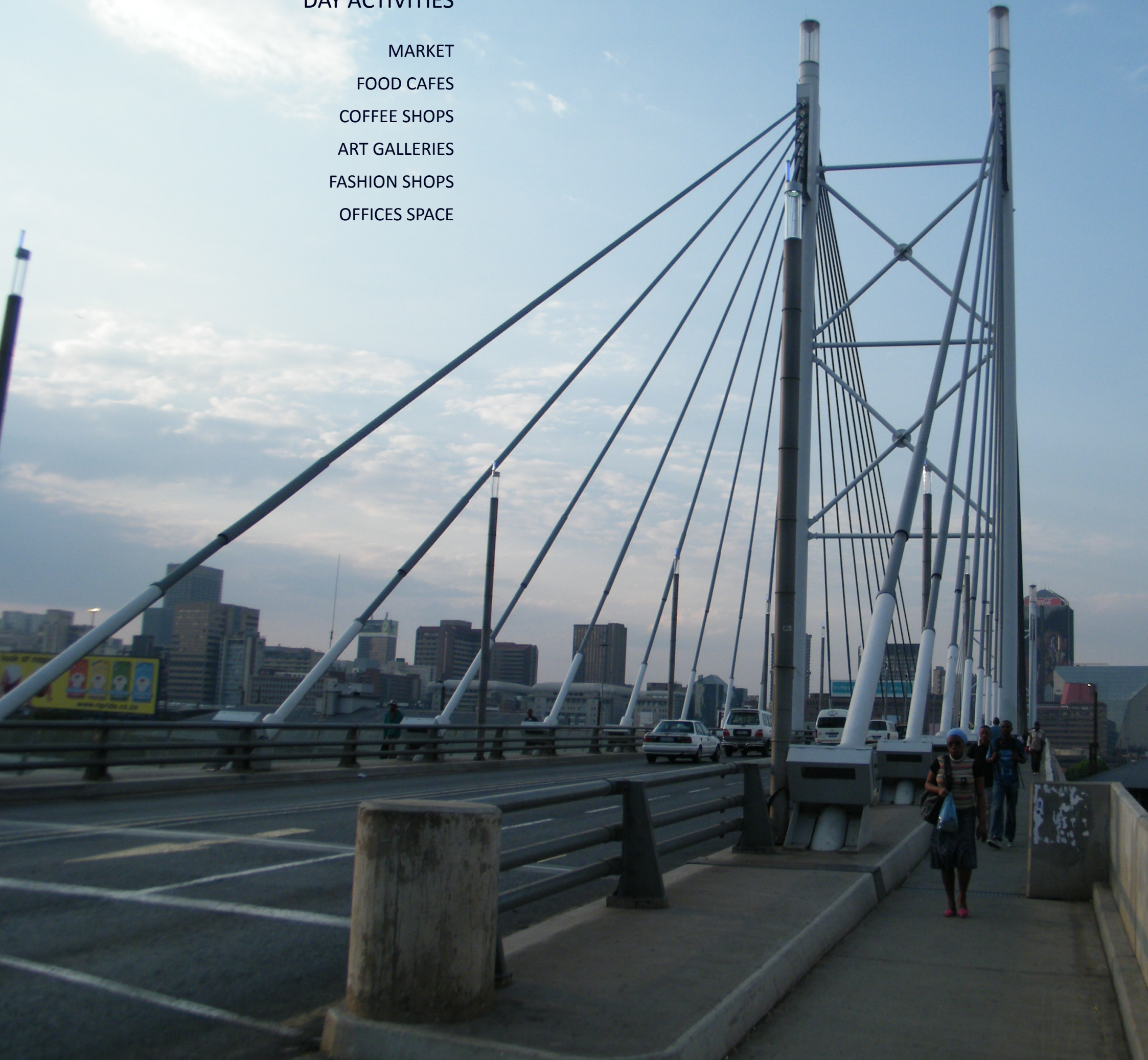
FOOD CAFES

COFFEE SHOPS

ART GALLERIES

FASHION SHOPS

OFFICES SPACE





## NIGHT ACTIVITIES

EVENTS & FUNCTION HALL

BRIDGE RESTAURANT

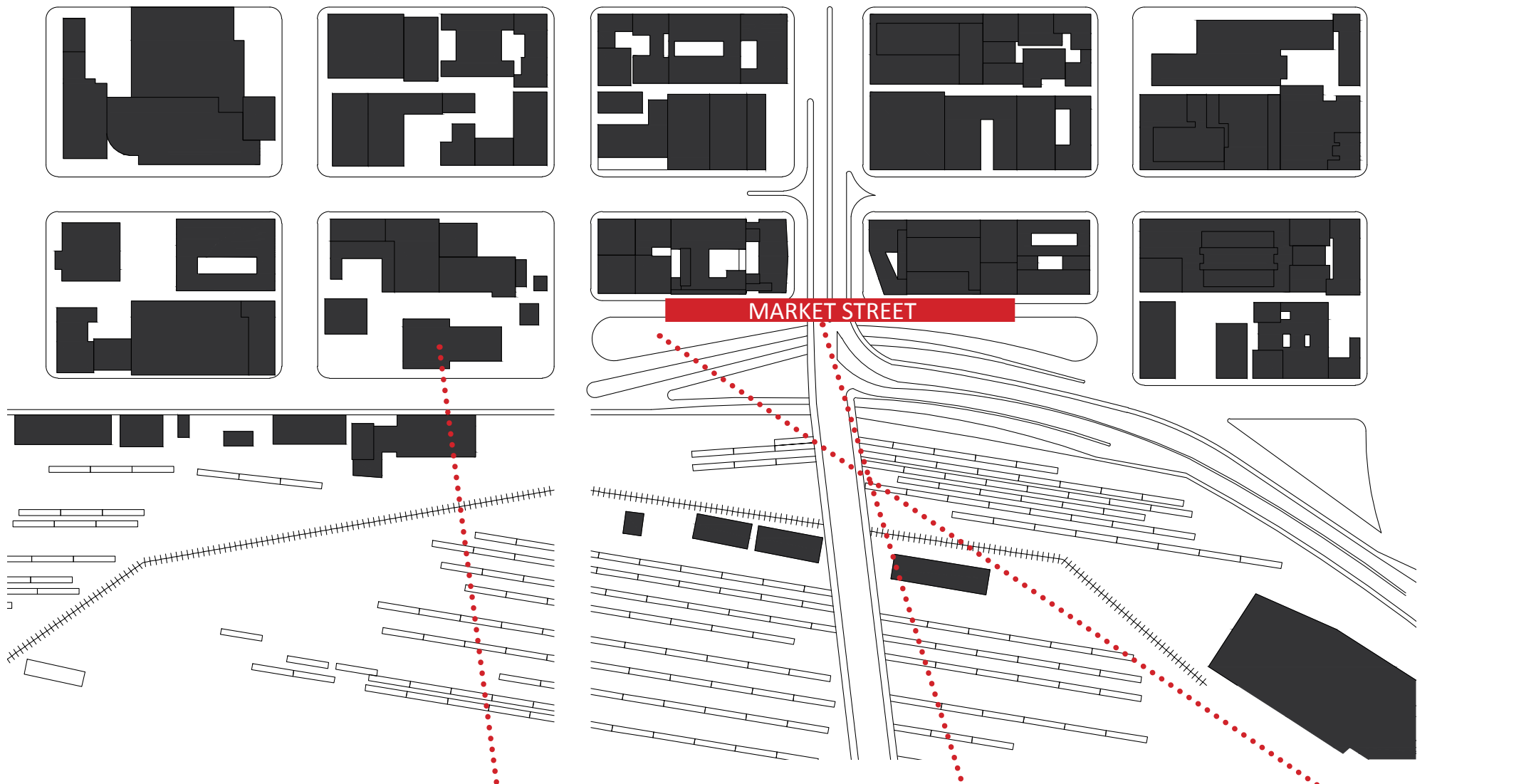
AUDITORIUM

FIGURE 88



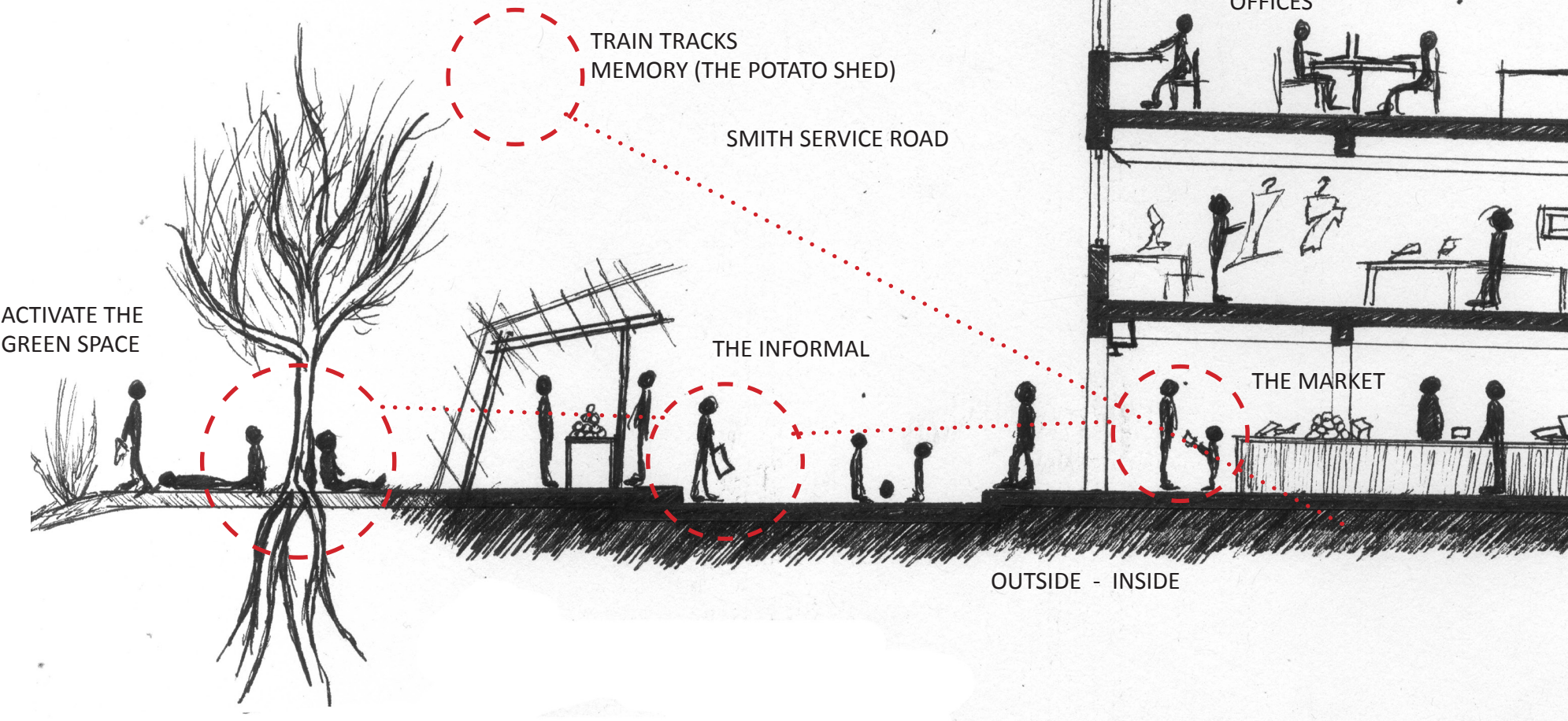
# RELATIONSHIP TO SMITH SERVICE ROAD SOUTH

## A MARKET





The road is already informal, however hawkers are not allowed and but they need a dedicated place which allows for trading and to bypass the legislation of informal street trade. The space can become a place for pedestrians to purchase their fruit and vegetables on the way to work or on their way to the taxi rank located at the end of the Nelson Mandela Bridge in Newtown. The market will cater for the low income class as well as help in the creation of potential jobs making a great relationship with the train tracks and play on the memory of how the train assisted in the development of Johannesburg.



SMITH SERVICE ROAD - SOUTH SIDE OF THE SITE

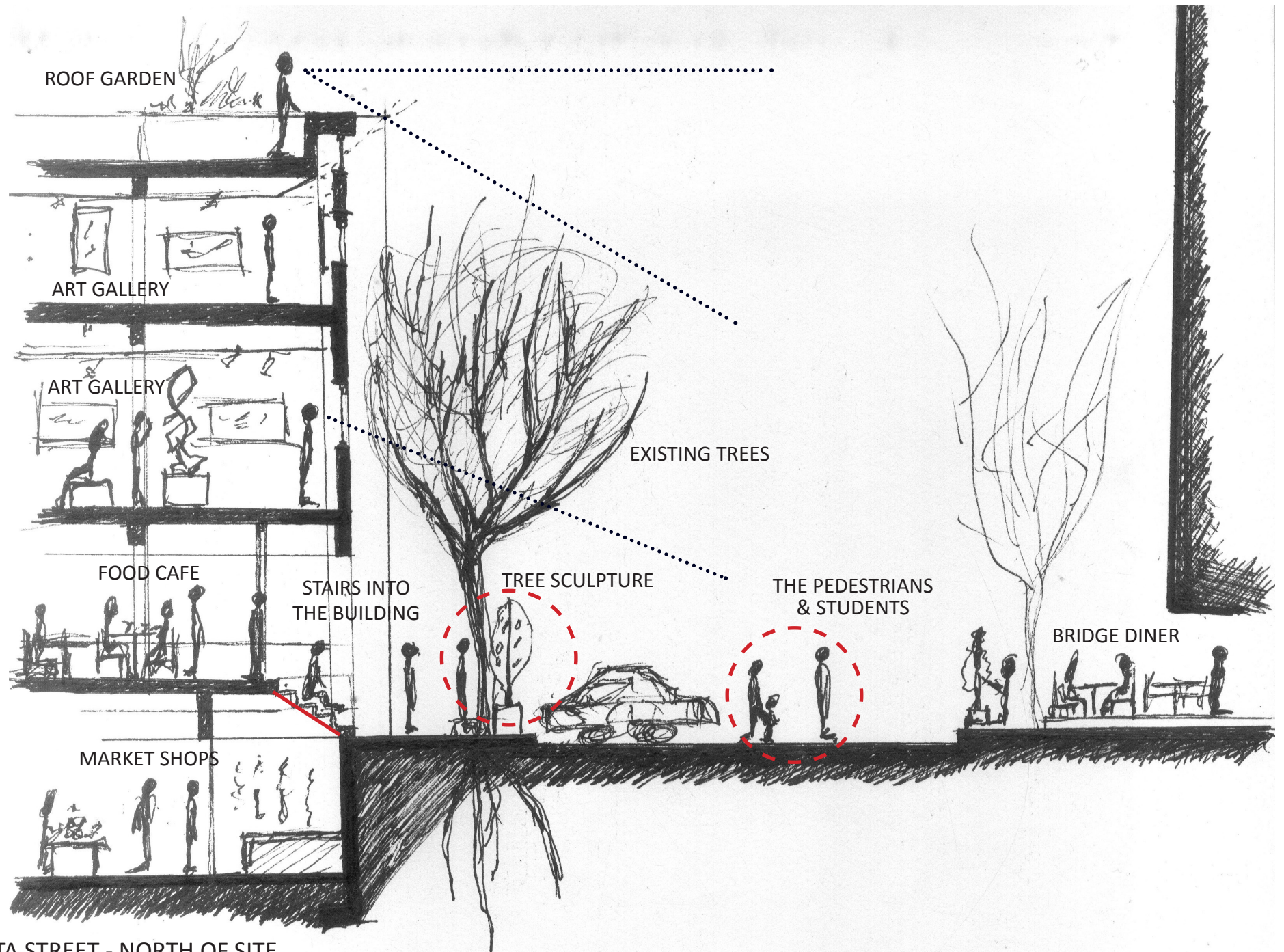




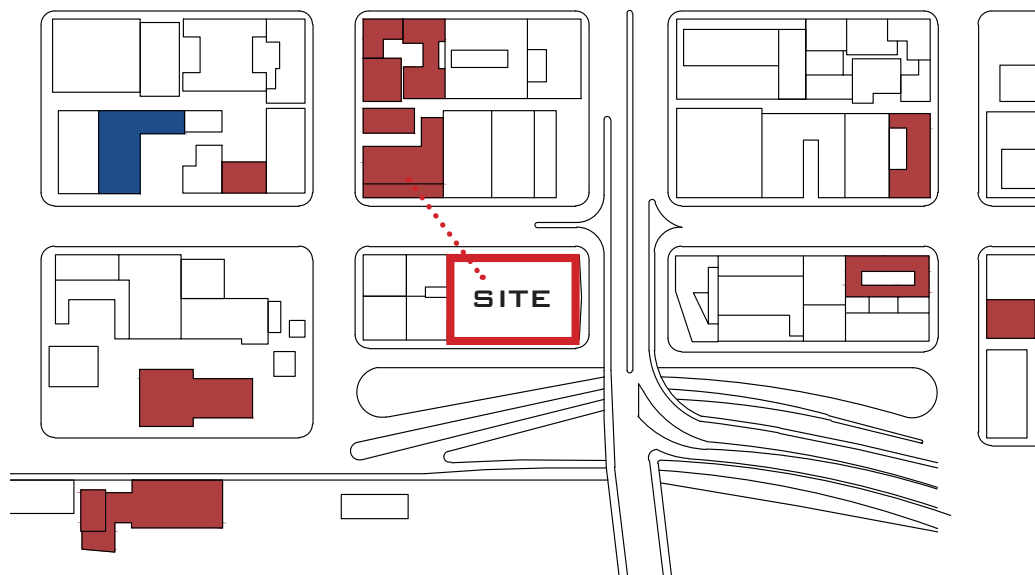
RELATIONSHIP TO JUTA STREET  
FOOD CAFE & RETAIL







JUTA STREET - NORTH OF SITE

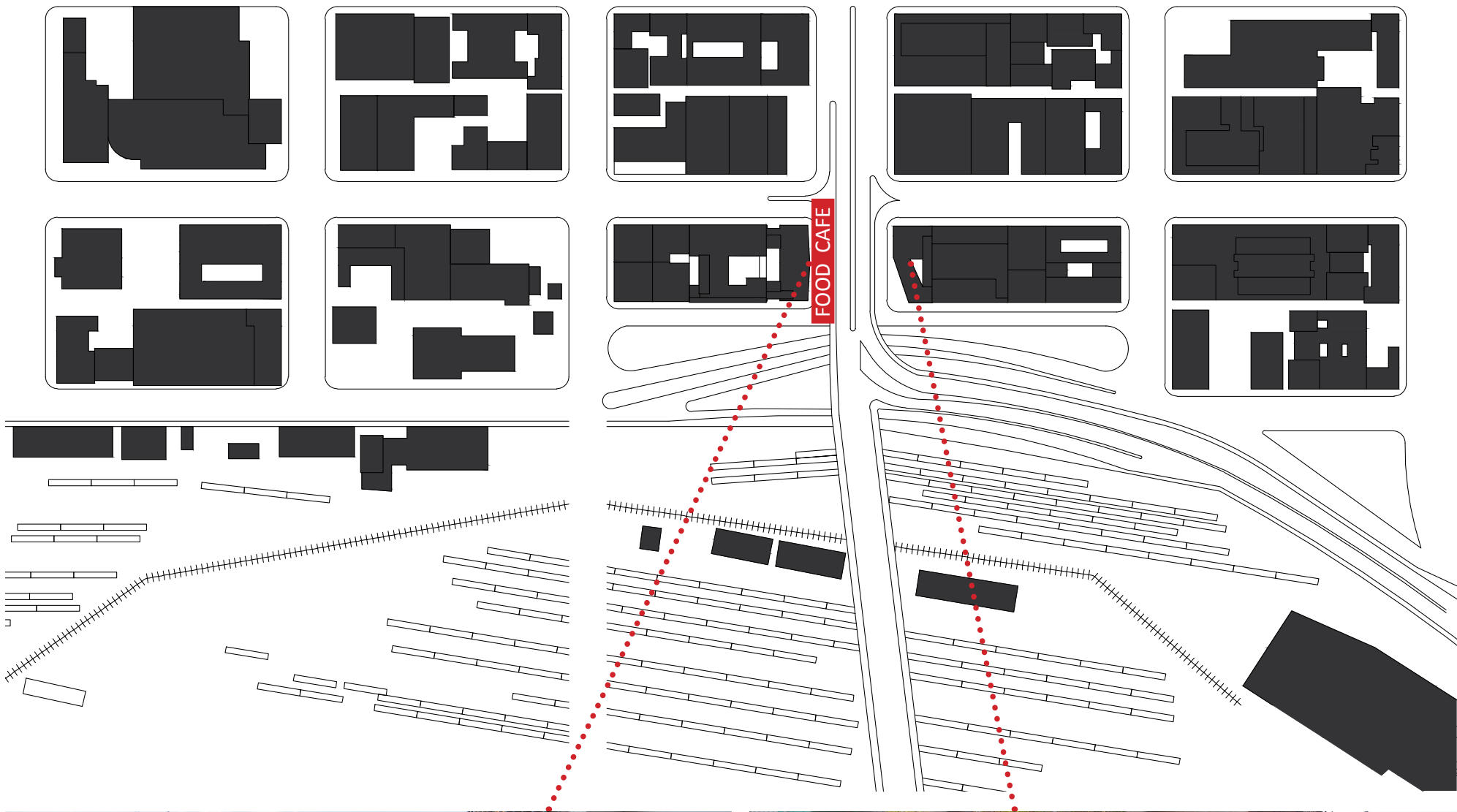


BRIDGE DINER AND THE RELATIONSHIP TO 54 JUTA

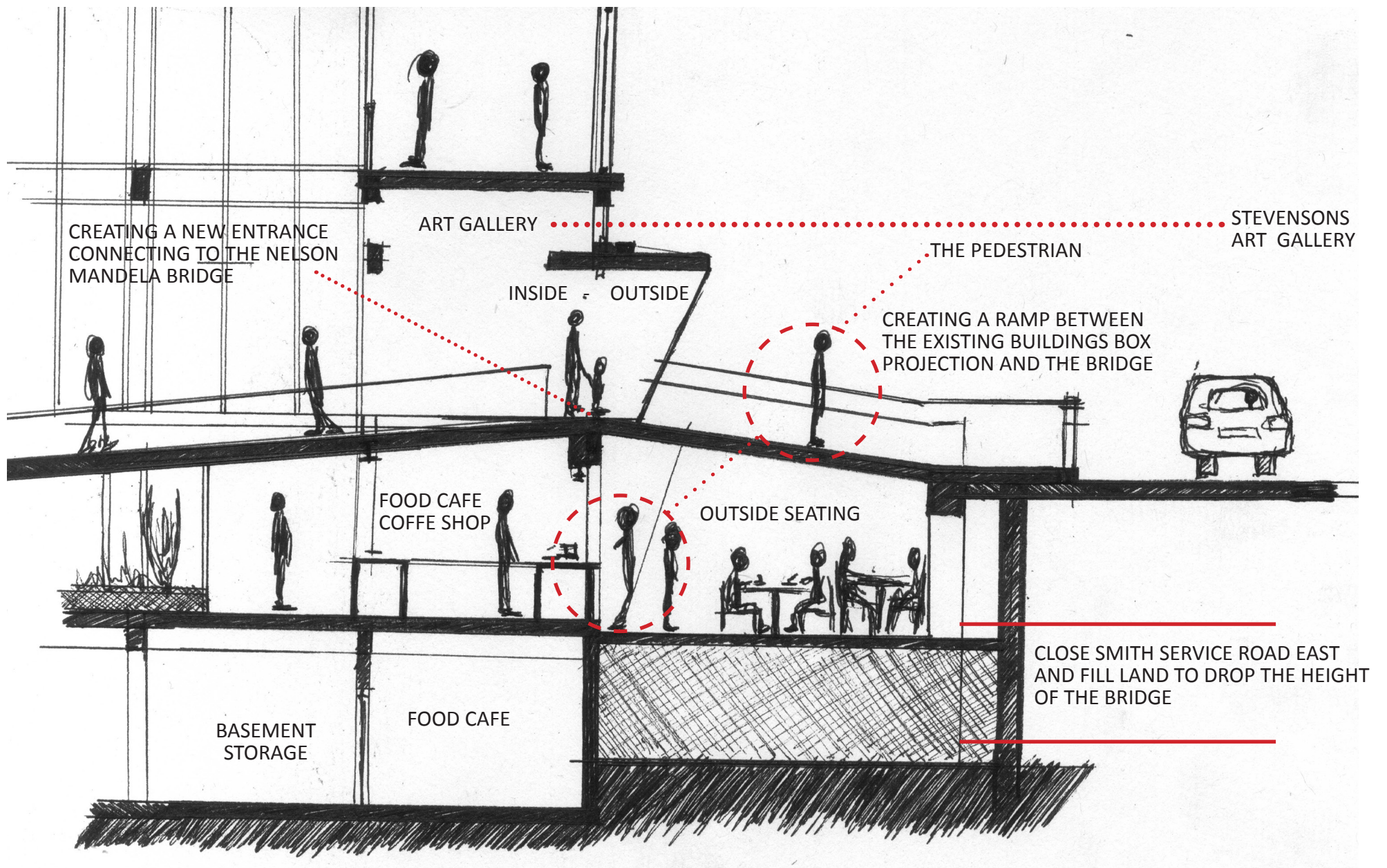
The placement of functions in relation to the surrounding functions should strengthen and enhance each other for example in the creation of a food street, this allows the street to become an extension of the building thus creating a network of relationships. A food cafe and the Bridge Dinner can begin a dialog across Juta Street. The buildings First floor is preventing movement into the space, stairs could aid in bringing people into the building and light up the Basement level. The building should feel open on the roads so that people can see what's happening inside, thus attracting attention and activity.



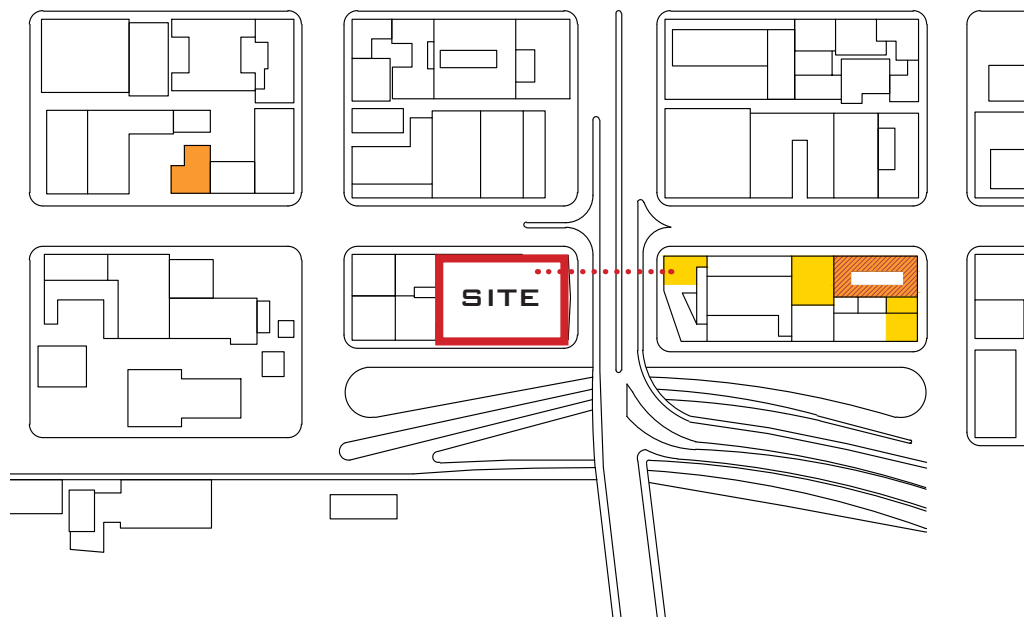
RELATIONSHIP TO SMITH SERVICE ROAD EAST  
MORNING FOOD CAFE & COFFEE SHOP







REMOVING SMITH SERVICE ROAD EAST

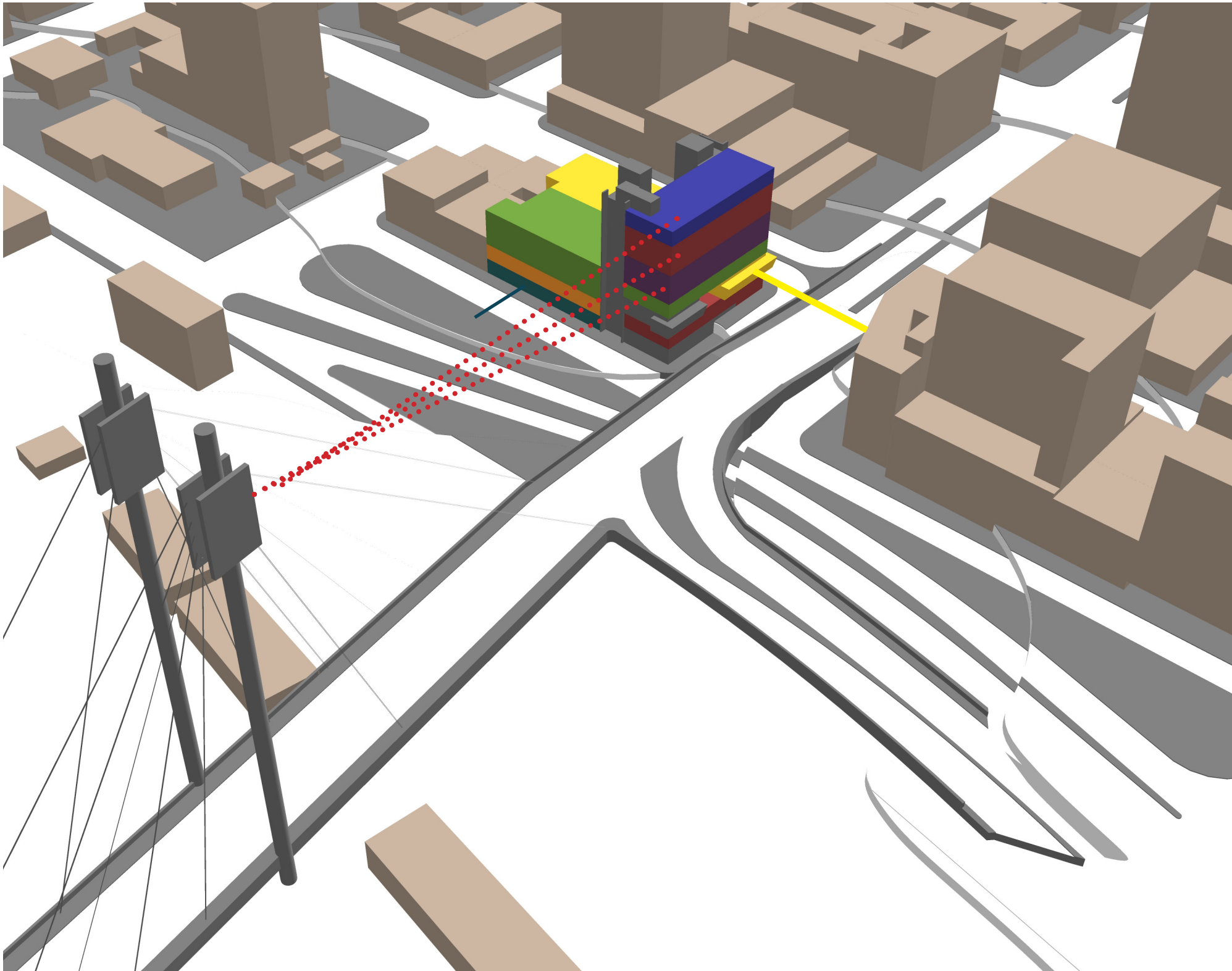


GALLERY ACROSS THE NELSON MADLEA BRIDGE

Removing Smith service road east will allow for the ground to be lifted and made flat so that it becomes a usable space. The block projecting on the existing building may become the perfect point of entry into the building to capture the pedestrians walking across the bridge. A ramp between the bridge and 60 Jutta should help fix the issues concerned with the height of the bridge in relation to the road. A coffee shop and morning food cafe could capture a lot of activity. The art gallery in relation to Stevenson's Art gallery should be explored as there is no direct path to the other side of the bridge.



MASSING SOUTH ELEVATION  
NIGHT FUNCTIONS RELATIONSHIP TO THE NELSON MANDELA BRIDGE



ART GALLERIES



PERFORMANCE



OFFICE SPACE



MARKET



DESIGNER SHOPS



BRIDGE  
RESTAURANT



EVENTS & FUNCTIONS



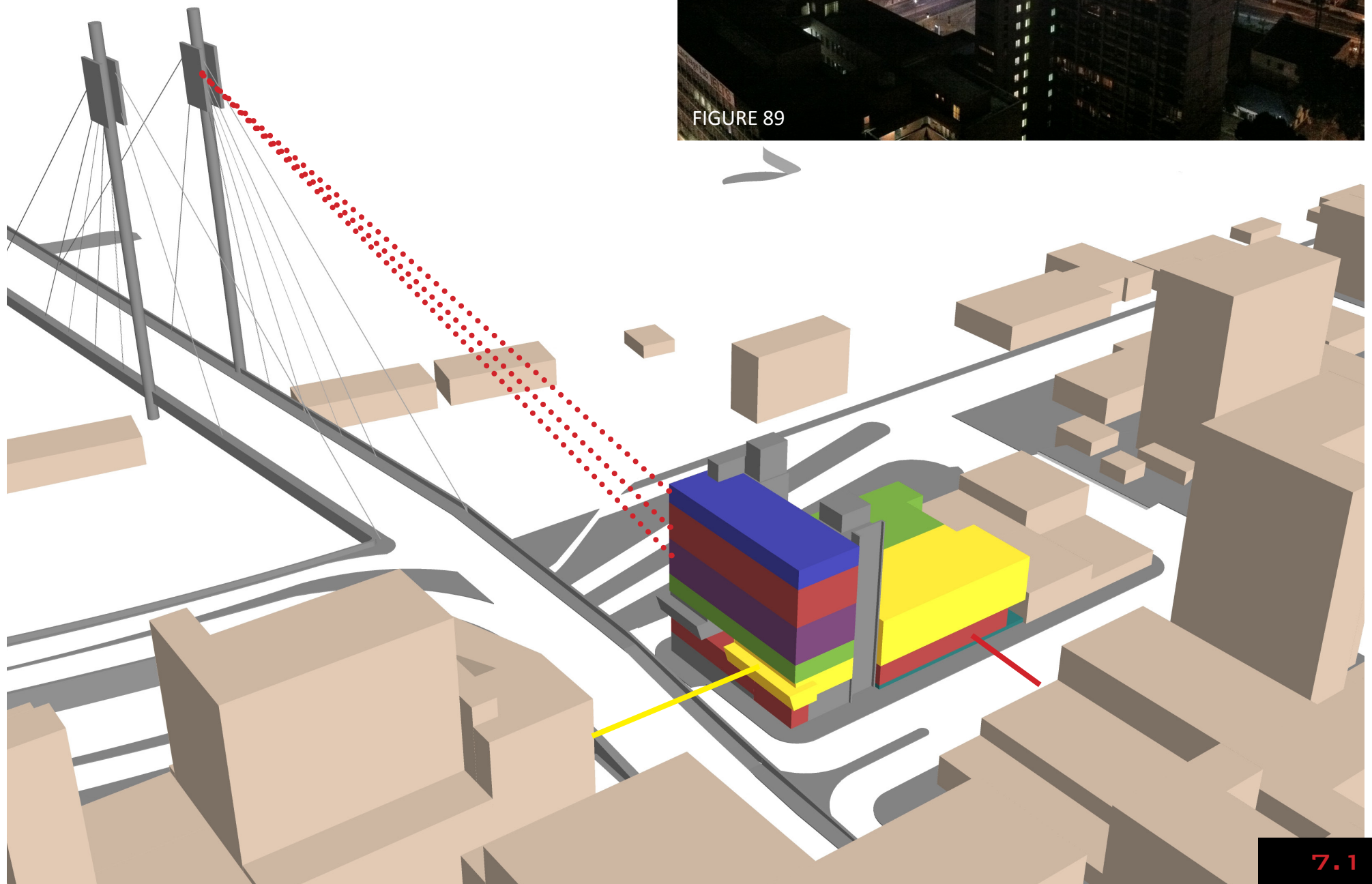
FOOD CAFES &  
COFFEE SHOPS



## MASSING NORTH ELEVATION

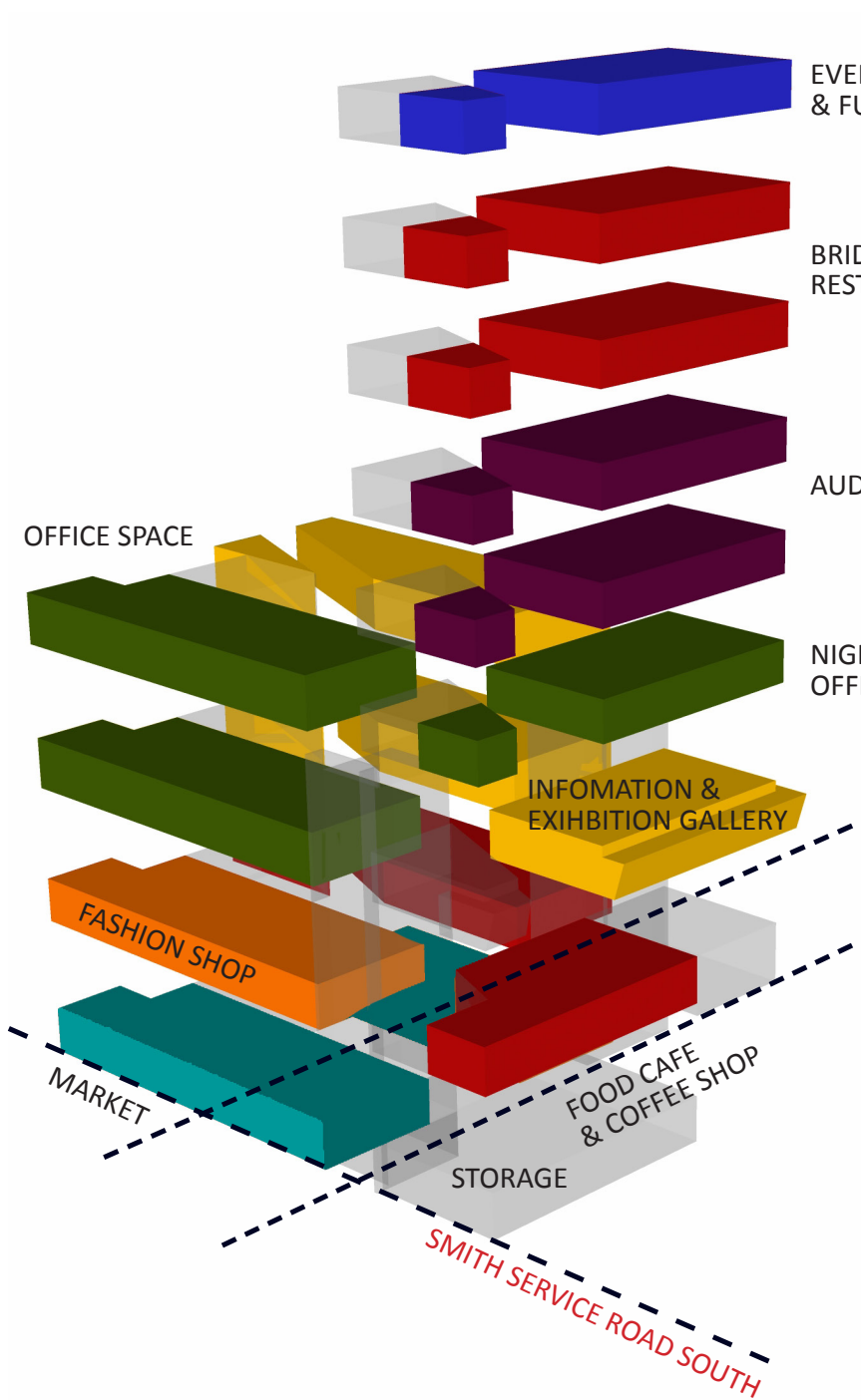
### NIGHT FUNCTIONS RELATIONSHIP TO THE NELSON MANDELA BRIDGE

The day activities will happen on the first four levels of the building creating a strong relationship to the road during the day. The night activities can then be placed in 60 Juta's box above the box projection. This could be called the night life box and will need to capture the views of the Nelson Mandela Bridge and at night lit up which will create a magical atmosphere for a bridge restaurant and events hall. The amphitheatre can be placed in the darker section of the building allowing for a relationship to the booking offices for the nightlife box below.

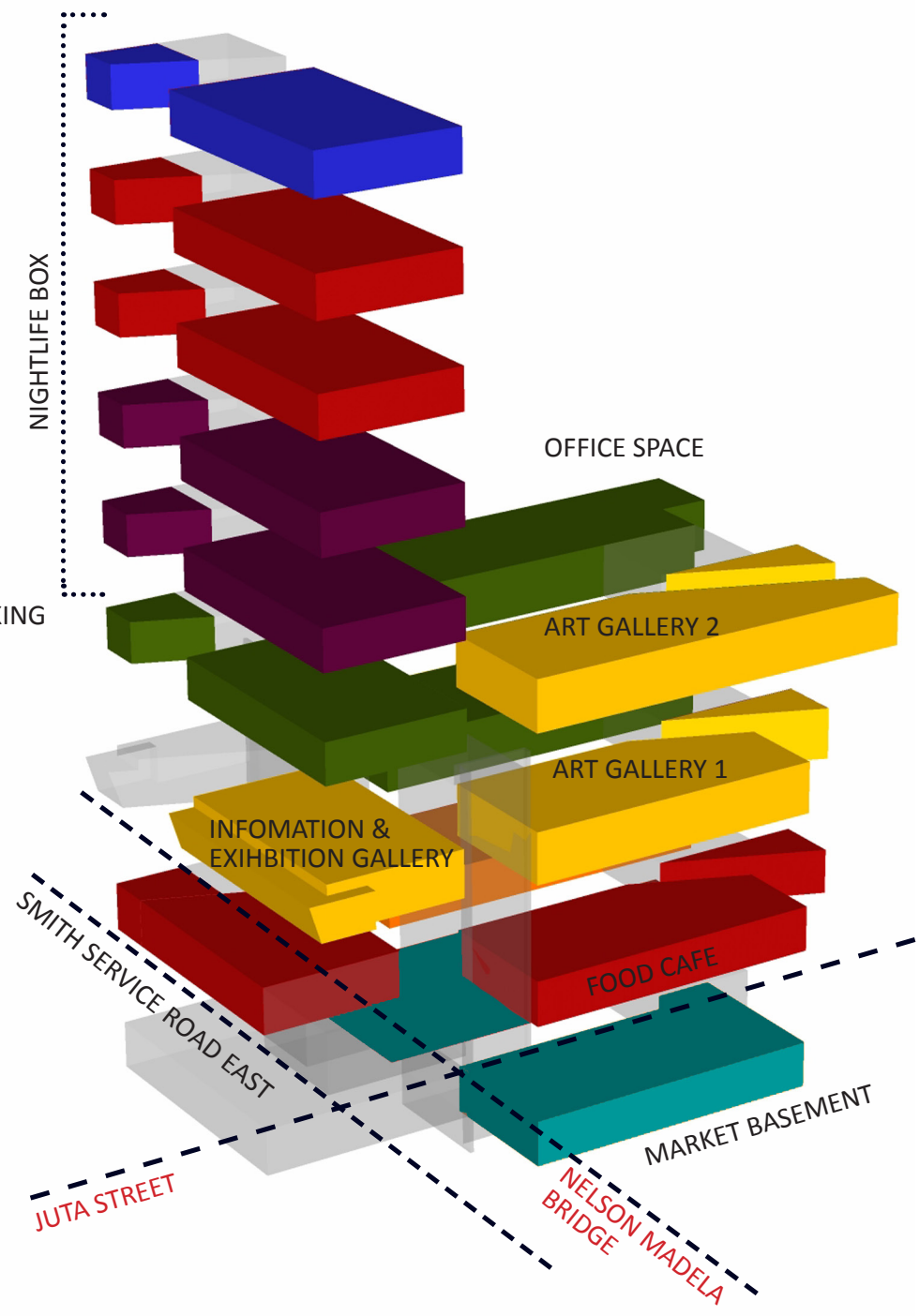




MASSING  
RELATIONSHIP BETWEEN FUNCTIONS WITHIN THE BUILDING



SOUTH OF SITE



NORTH OF SITE



THE PROGRAMME  
THE INTERNAL REQUIREMENTS

SERVICES	
ENTRANCE / RECEPTION	70msq
SECURITY / MONITORING	35msq
UNISEX RESTROOMS	350msq
SERVICE LIFT & FIRE ESCAPE	180msq
PUBLIC LIFTS, STAIRS & LOBBY	350msq
BASEMENT STORAGE	380msq
TOTAL	1365msq

1 X BRIDGE RESTAURANT	
KITCHEN	100msq
SERVING	30msq
INDOOR SEATING	250msq
OUTDOOR SEATING	145msq
RECEPTION / PAY POINT	40msq
WAITING AREA	40msq
BAR	50msq
WAITING AREA	20msq
TOTAL	675msq

1 X AUDITORIUM / PERFORMANCE	
AUDITORIUM STAGE	40msq
AUDITORIUM SEATING	200msq
WAITING AREA	70msq
AUDITORIUM GARDEN	300msq
SOUND DESK	15msq
OUTSIDE VIEWING STATIONS	40msq
BACKSTAGE	70msq
CHANGE ROOMS	40msq
STORAGE	40msq
TOTAL	815msq

1 X EVENTS HALL (HIRE)	
RECEPTION / WAITING	30msq
FOOD & DRINKS CATERING	40msq
EVENTS HALL	300msq
OUTSIDE SEATING	40msq
TOTAL	410msq

1 X NIGHT BOX BOOKING OFFICES	
RECEPTION / WAITING	50msq
OFFICES	100msq
TOTAL	150msq

2050msq NIGHTLIFE

12 X OFFICE SPACE	
INDIVIDUAL OFFICE SPACE	25msq
COMMON MEETING ENTRANCE	50msq
COMMON STAIRCASE	20msq
COMMON KITCHEN	20msq
TOTAL	340msq

2 X FOOD CAFE	
KITCHEN	40msq
STORAGE	10msq
SERVING & PAYPOINT	20msq
INDOOR SEATING	200msq
OUTDOOR SEATING (OPTIONAL)	
TOTAL	540msq

2 X COFFEE SHOP	
KITCHEN	10msq
SERVING & PAYPOINT	10msq
INDOOR SEATING	50msq
TOTAL	140msq

1 X MARKET	
SMALL STALLS	20msq
LARGE STALLS	40msq
INFORMAL STALLS (GREEN SPACE)	
COMMON MEETING AREA	200msq
TOTAL	800msq

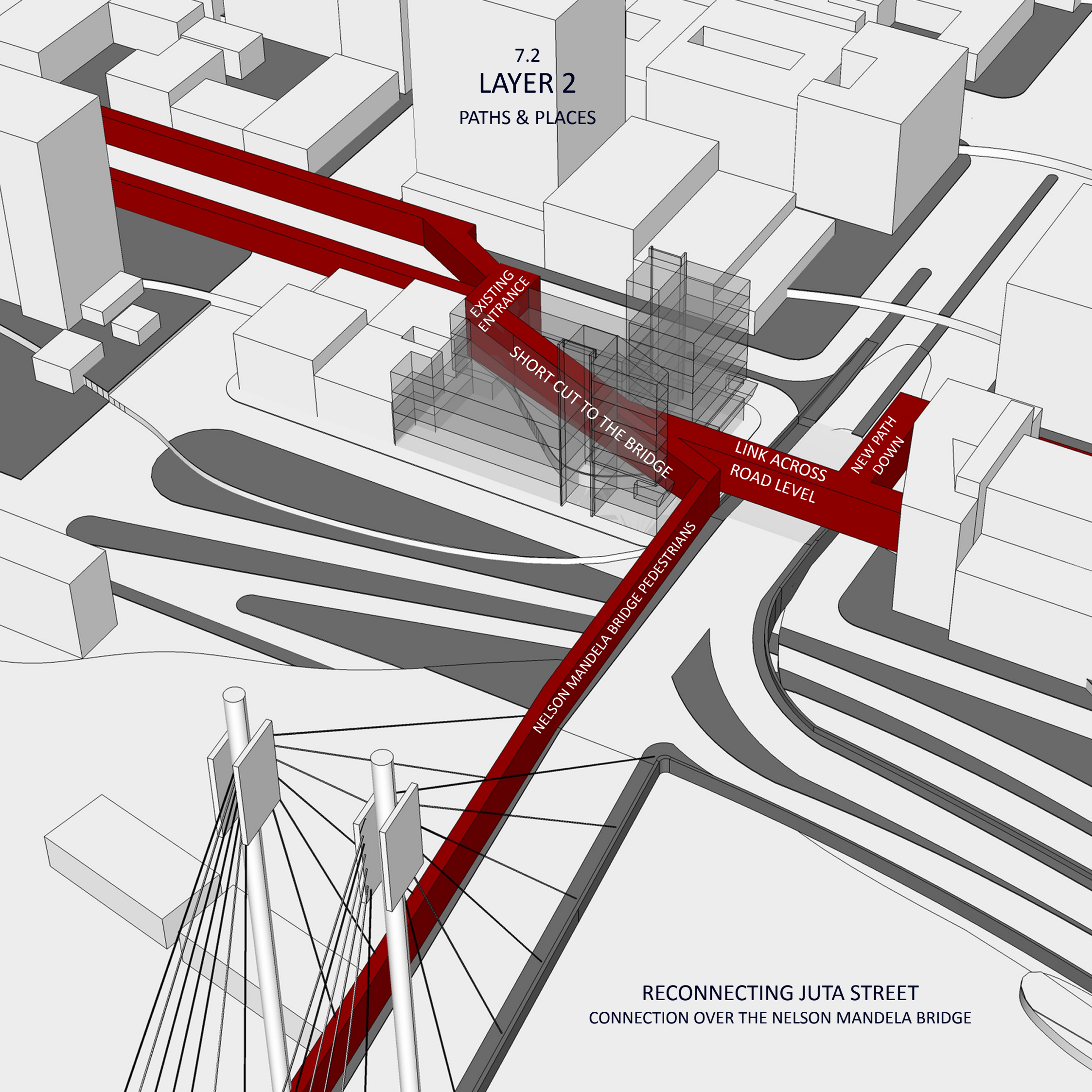
4 X DESIGNER RETAIL	
ENTRANCE & PAY POINT	10msq
DISPLAY SPACE	65msq
TOTAL	300msq

3 X GALLERY SPACE	
ENTRANCE	20msq
INFORMATION & OFFICE	40msq
EXHIBITION SEATING (TEMP)	50msq
DISPLAY (EXCLUDING WALLS)	100msq
TOTAL	420msq

3020msq DAY TIME ACTIVITIES



7.2  
**LAYER 2**  
PATHS & PLACES

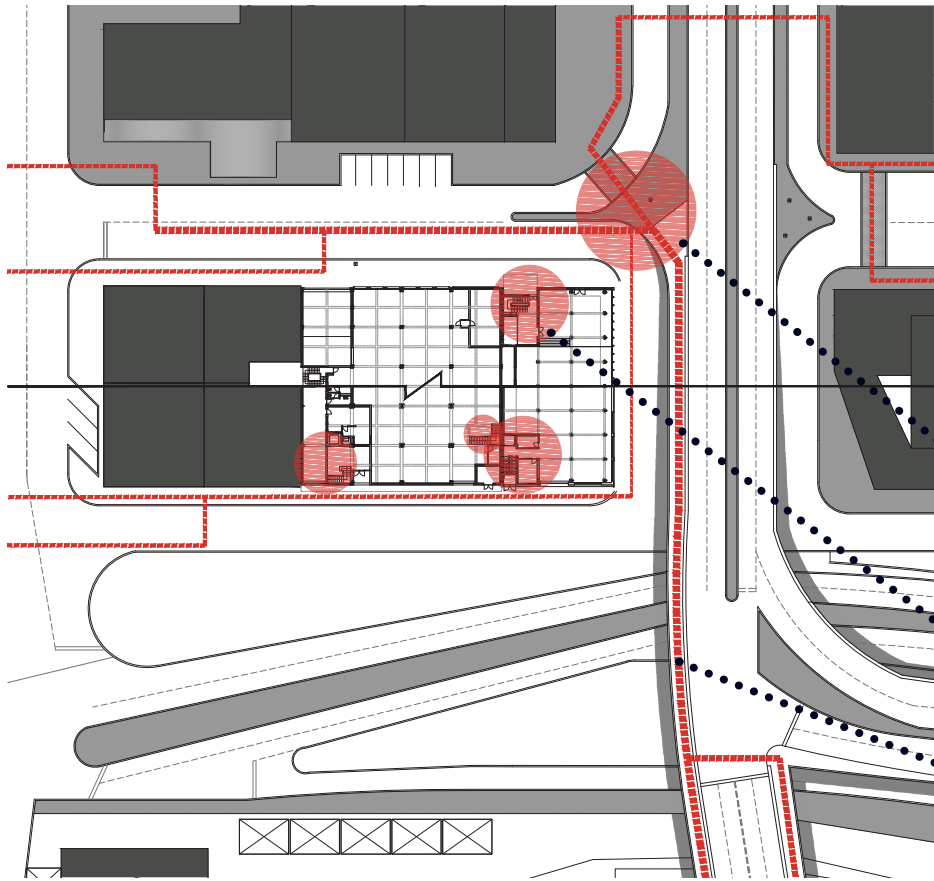


**RECONNECTING JUTA STREET**  
CONNECTION OVER THE NELSON MANDELA BRIDGE









## A PLACE FOR GATHERING

### REMOVING SMITH SERVICE ROAD EAST

The base of the Nelson Mandela Bridge can become the perfect place for gathering outside the building and will become a larger area by closing Smith service road east. The gathering place will be next to the main circulation core and entrance into 60 Juta and the upper functions. This will become a very busy pedestrian intersection and gathering space, thus giving a new life to the corner of Juta and Bertha Street.

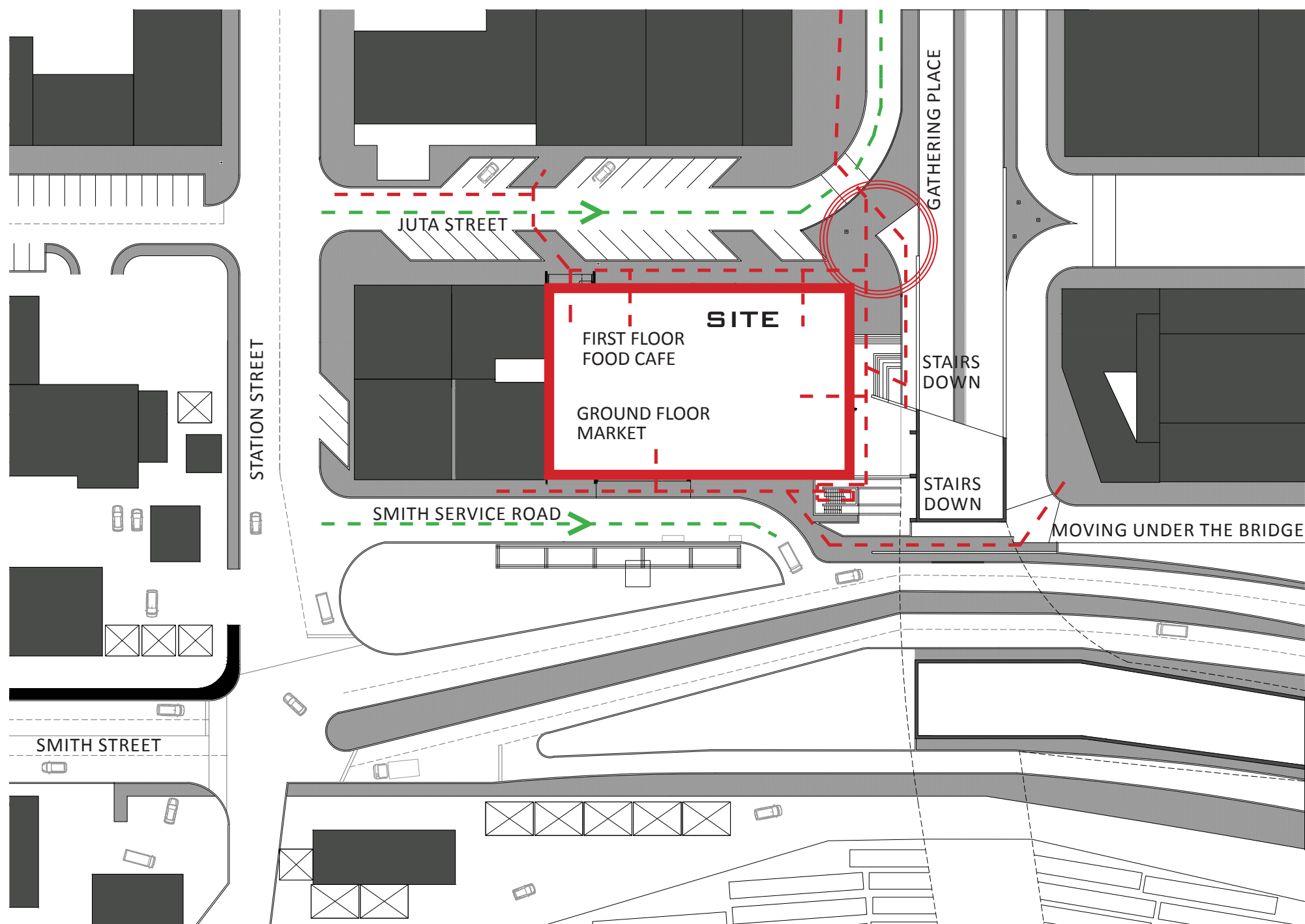
• GATHERING PLACE

• 60 JUTA CIRCULATION CORE

• PEDESTRIAN MOVEMENT







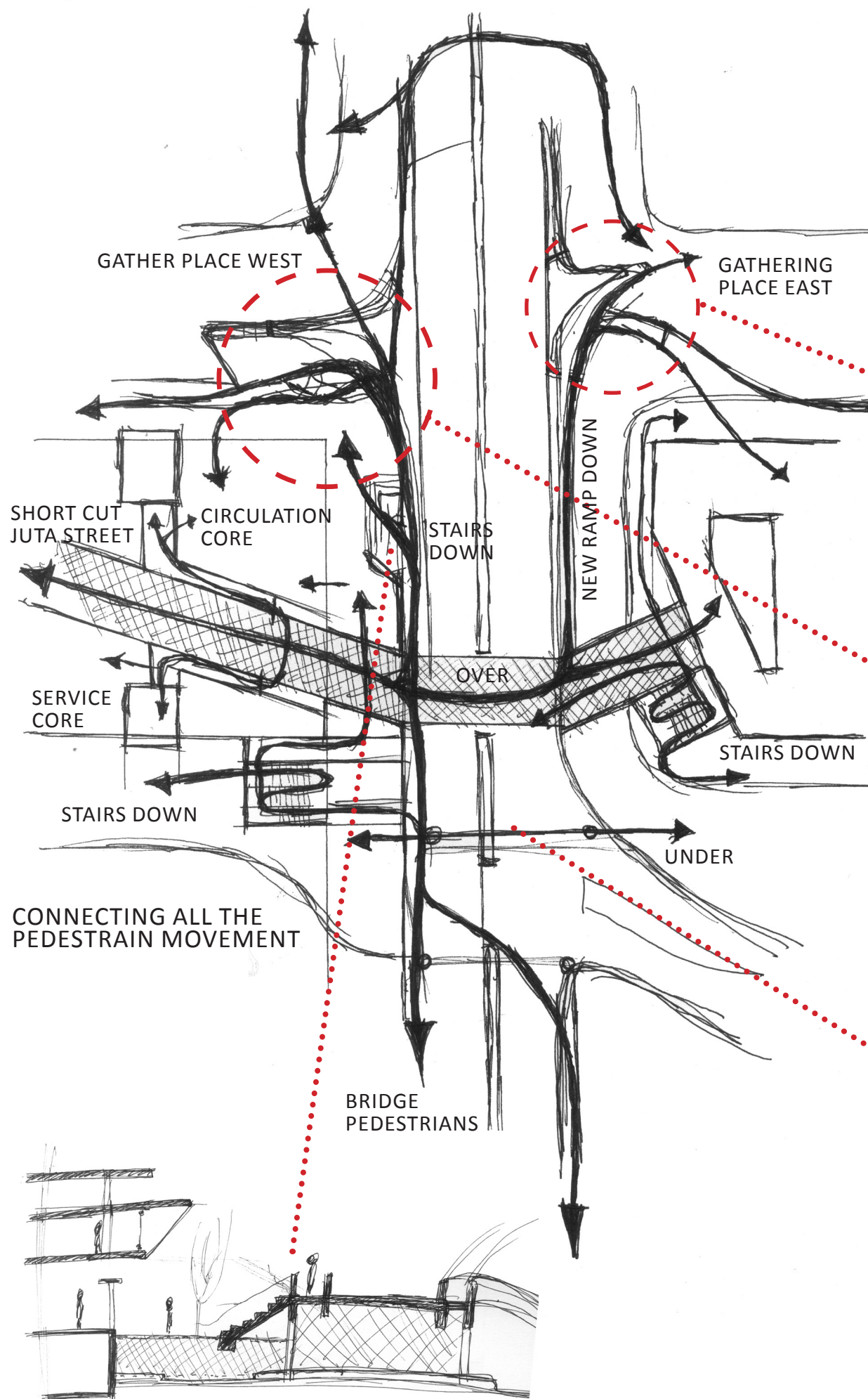
## REDIRECTING VEHICULAR MOVEMENT

Closing the road results in having to redirect the flow of cars. The intervention is minimal. Juta street as a one way which will allow for 45 degree parking as the parking in the street at the moment is all the road and pavements. Juta in truth is already used as a one way by most of the motorists. Smith Service Road can direct its flow of movement into Smith Street as the direction of movement is the same.



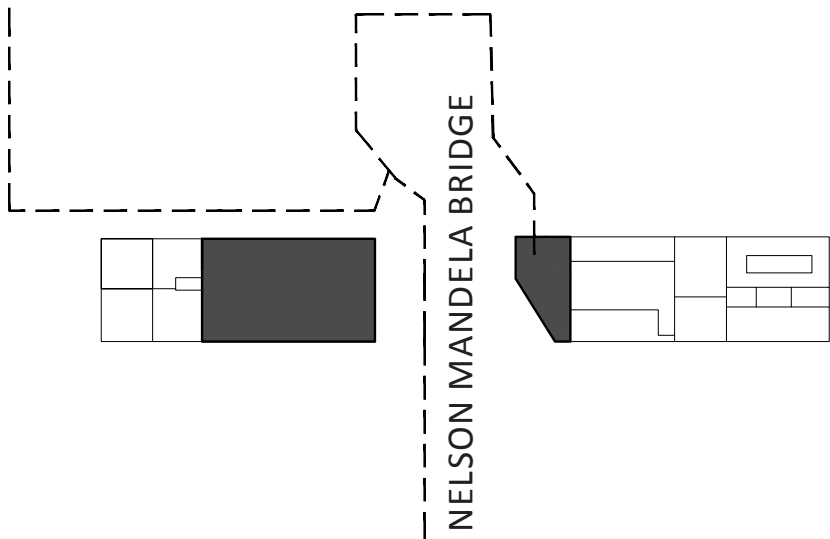




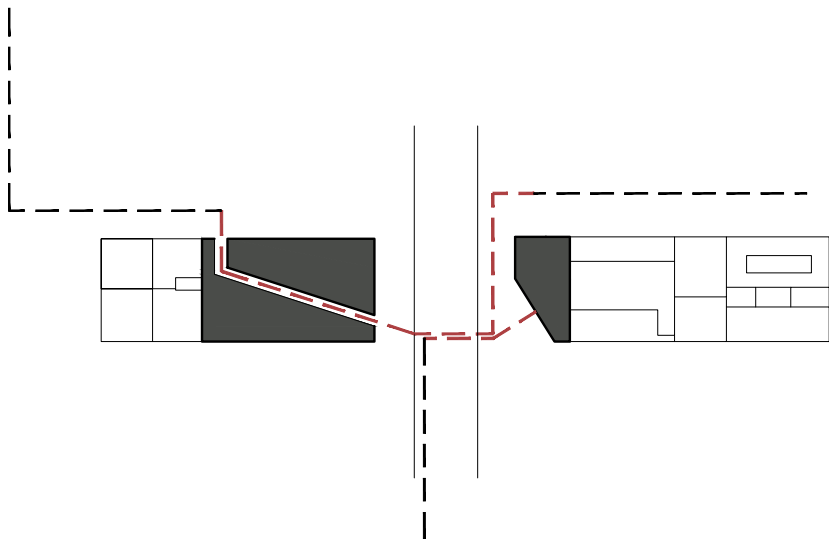




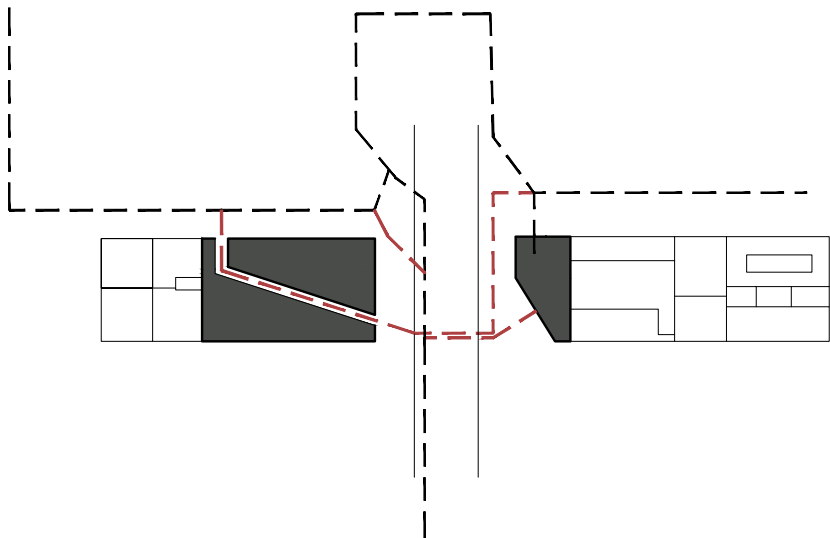
CONNECTING JUTA STREET & SMITH SERVICE (SOUTH & EAST)  
OVER, UNDER, DOWN AND THROUGH



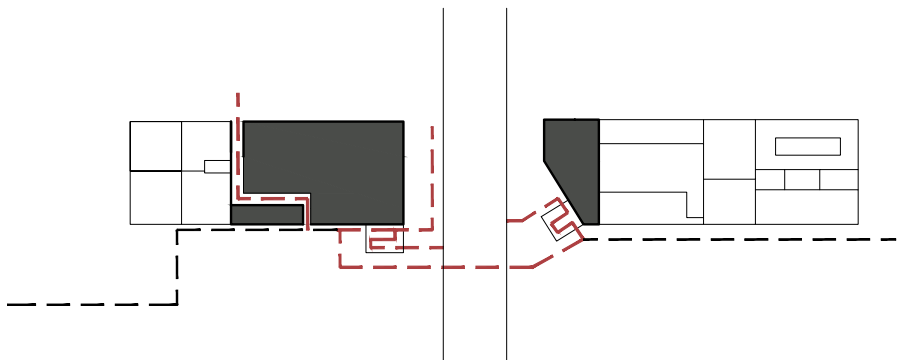
Current pedestrian movement



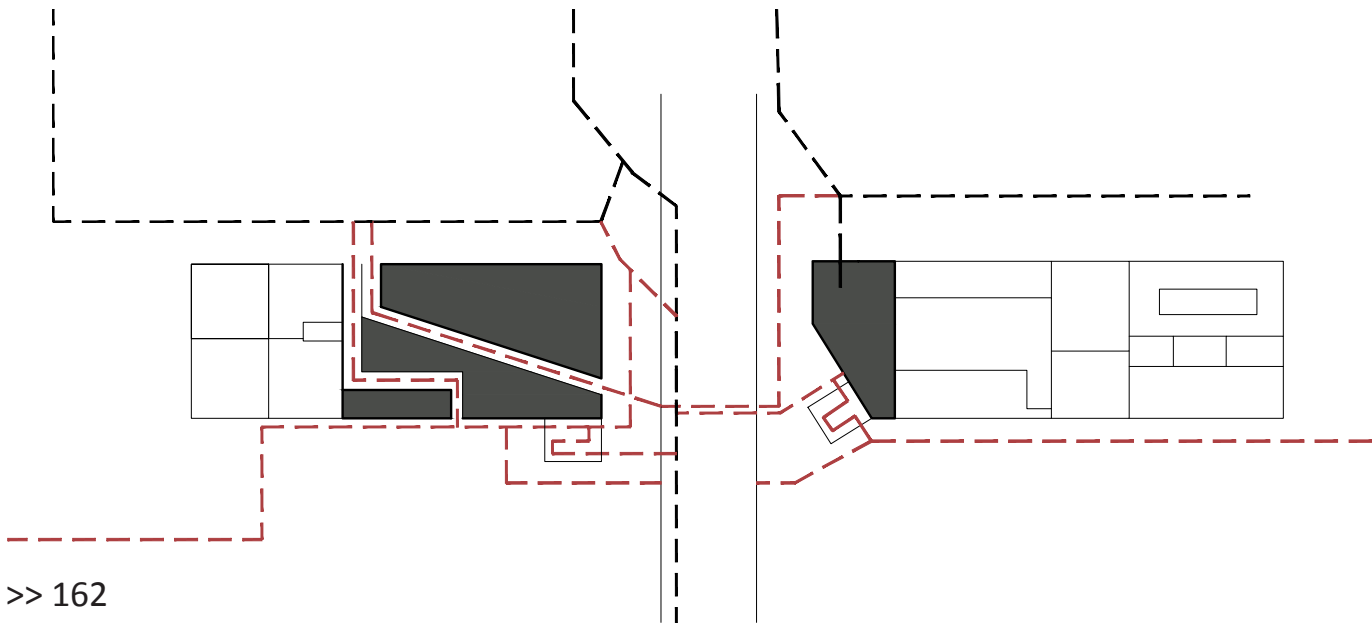
A new link over the bridge, connecting the two buildings with a path down to a gathering space on the west of Juta Street. This will be a short cut between the Nelson Mandela Bridge and Juta Street.



A staircase could link to the gathering Place on the west of Juta Street.



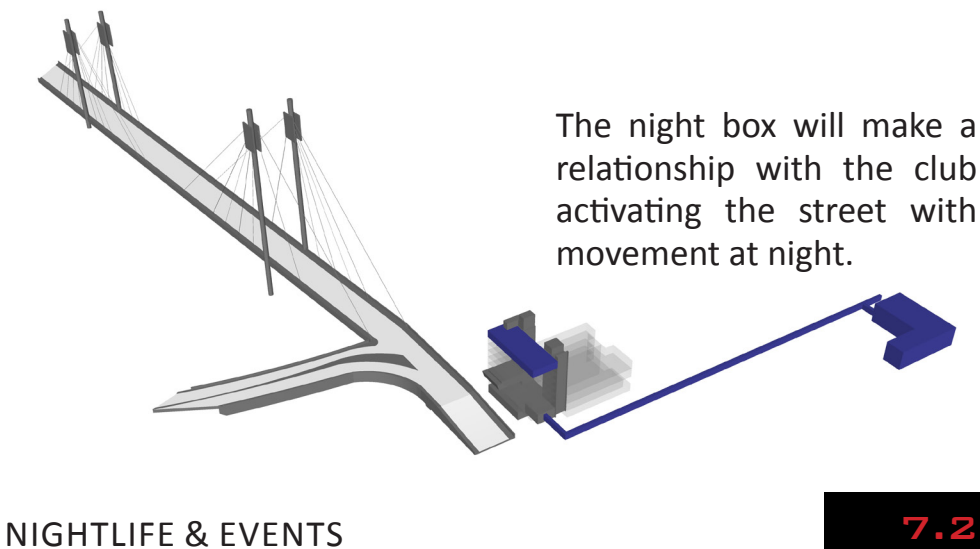
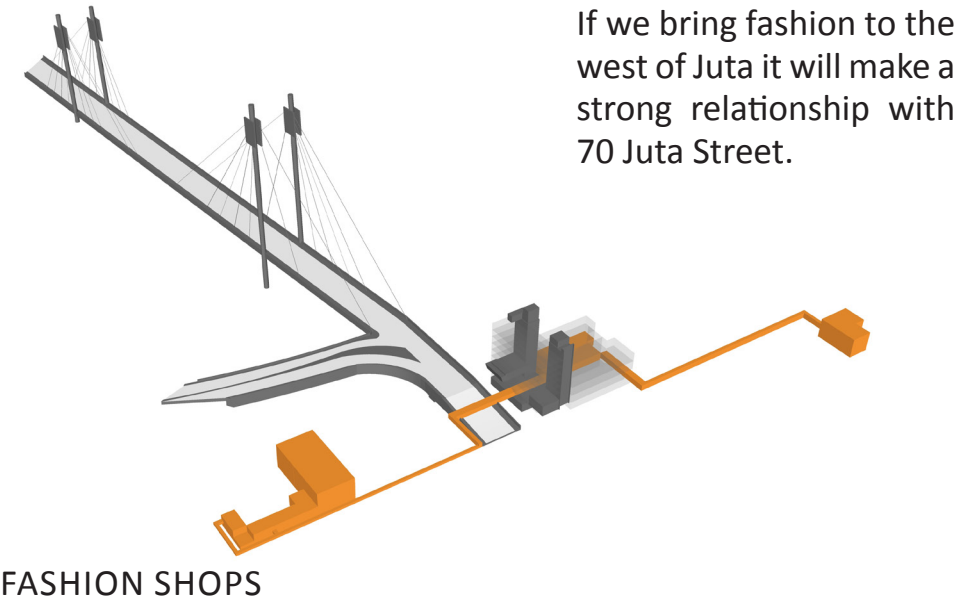
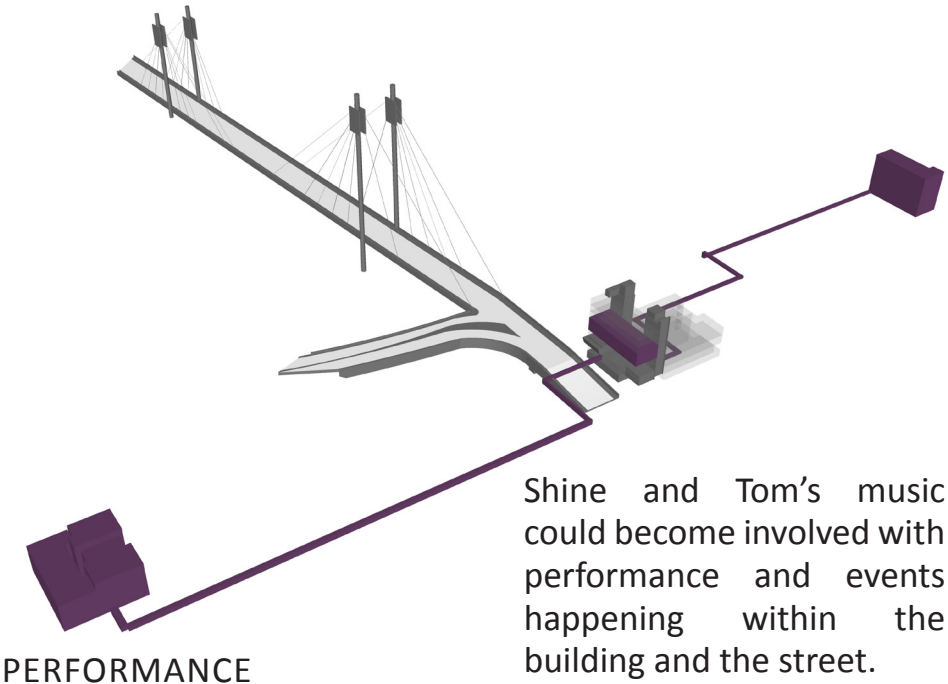
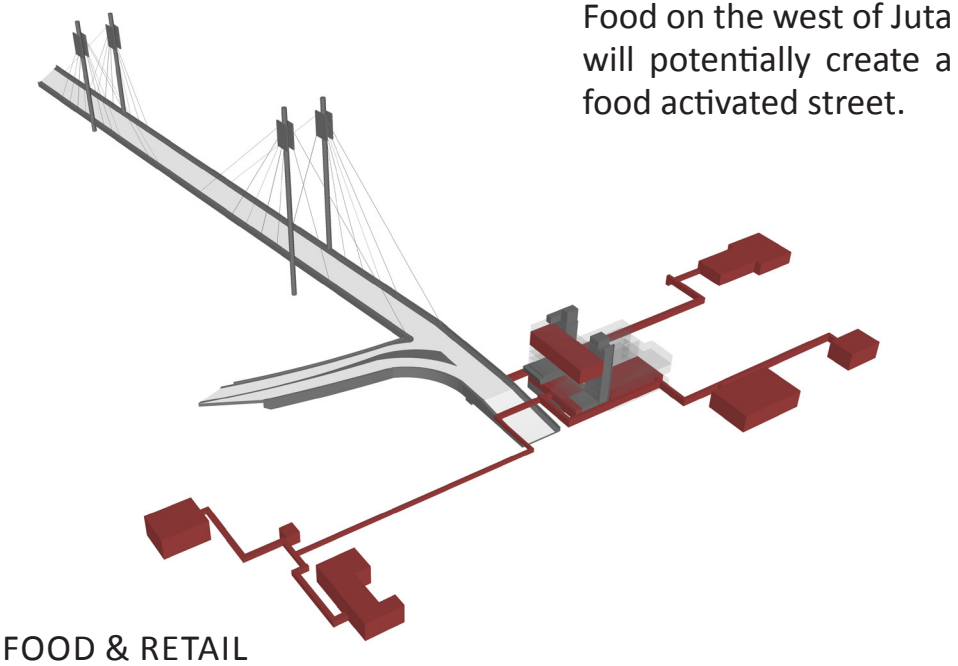
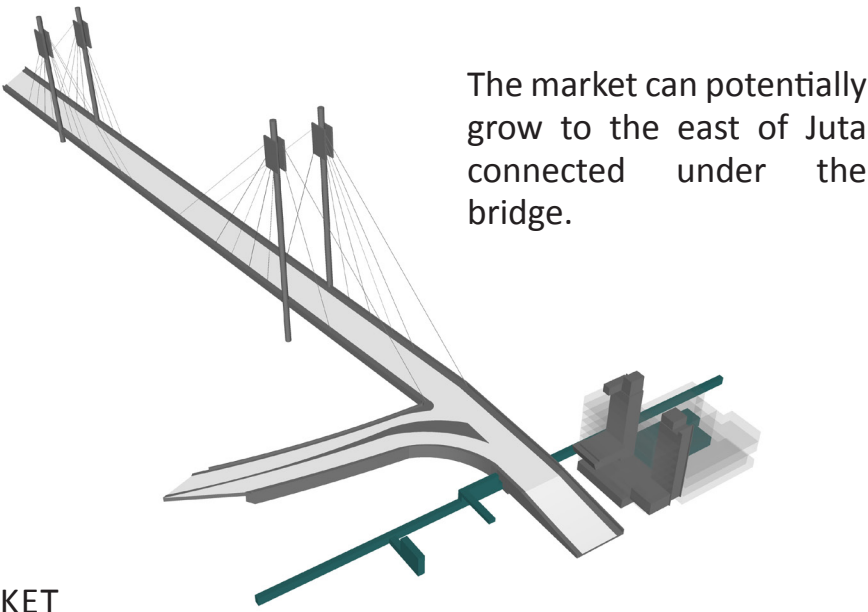
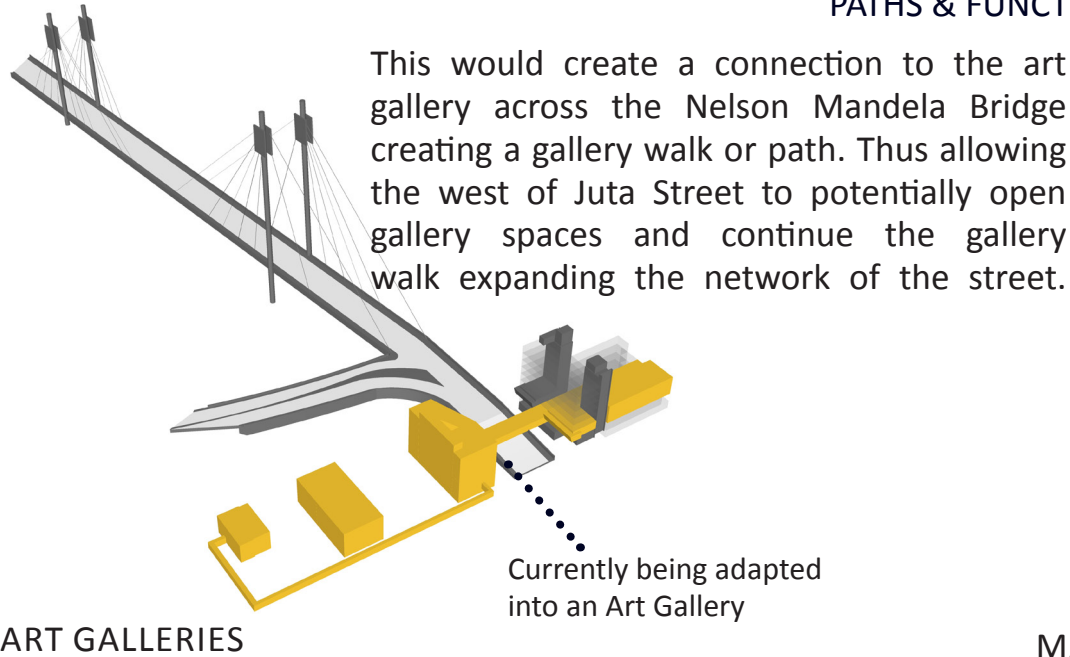
Two staircases could be inserted down to Smith Service Road level and connected under the Nelson Mandela Bridge. A ramp from Juta Street to Smith Service Road will linking the market to the bridge Juta short cut.



Layering the new and the old movement routes caused a layered system of different paths. According to the intentions and activities needed to be carried out and the position in the environment, the quickest paths in proximity to the next destination would be used.



OPPORTUNITIES FOR FUTURE GROWTH  
PATHS & FUNCTIONS



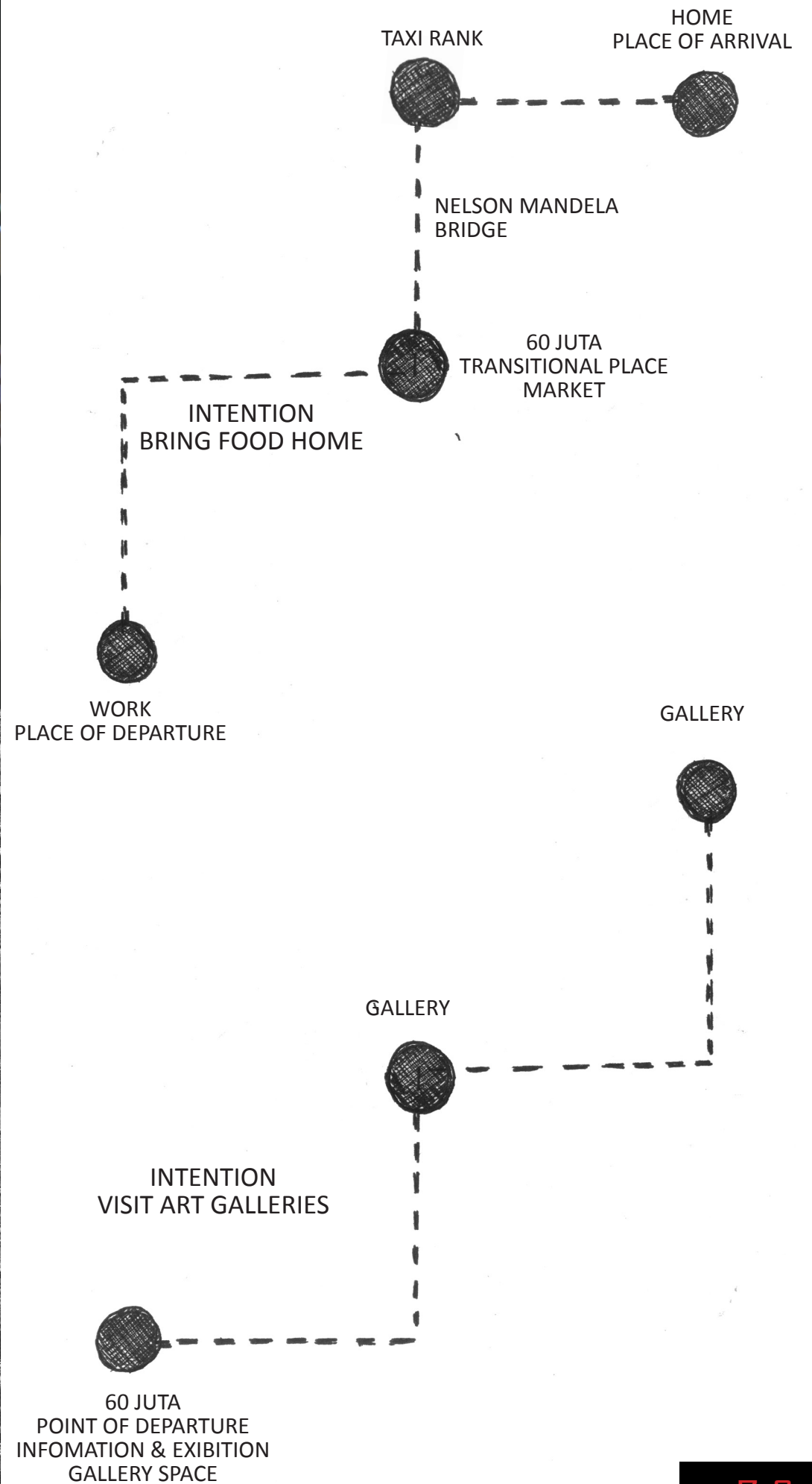


A NETWORK  
PATHS & INTENTIONS



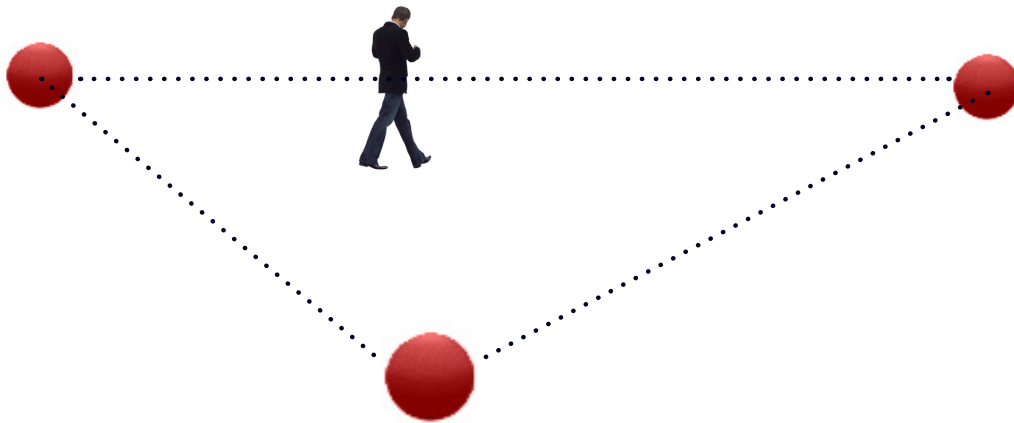
A PLACE EXTENDS FURTHER THAN ITS  
BOUNDARIES







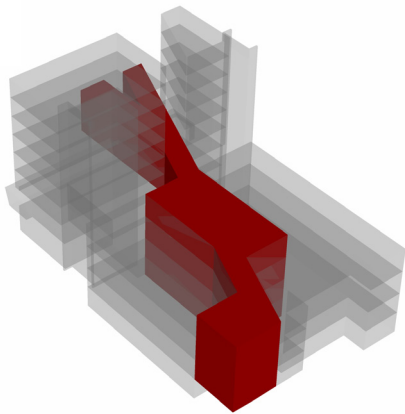
7.3  
**LAYER 3**  
SPATIAL RELATIONS



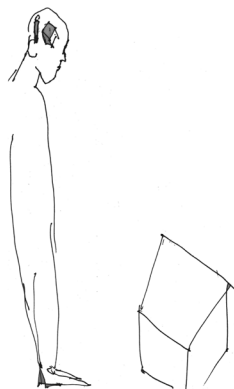
ORIENTATION TO OBJECTS IN SPACE



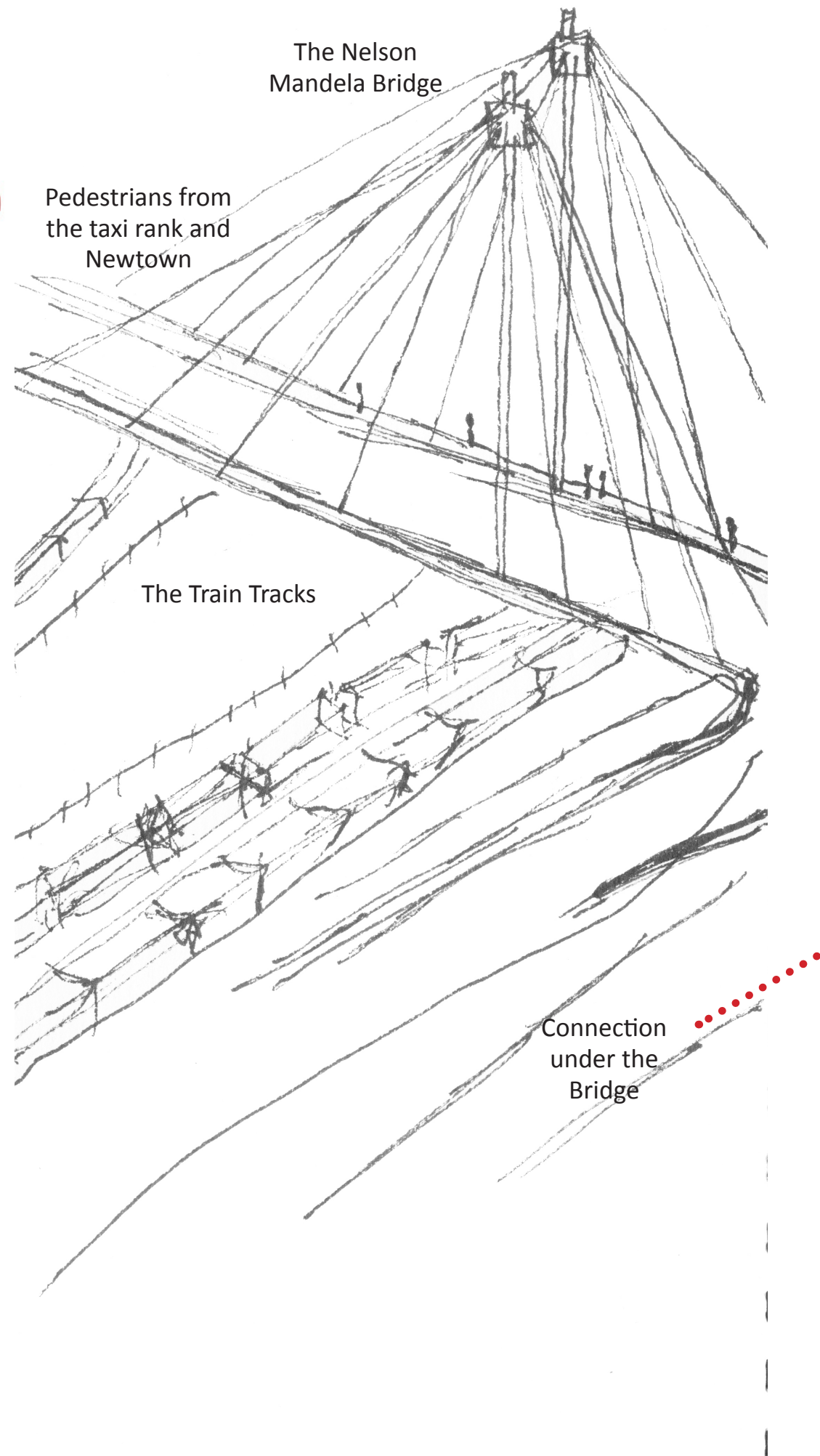
PRAGMATIC SPACE



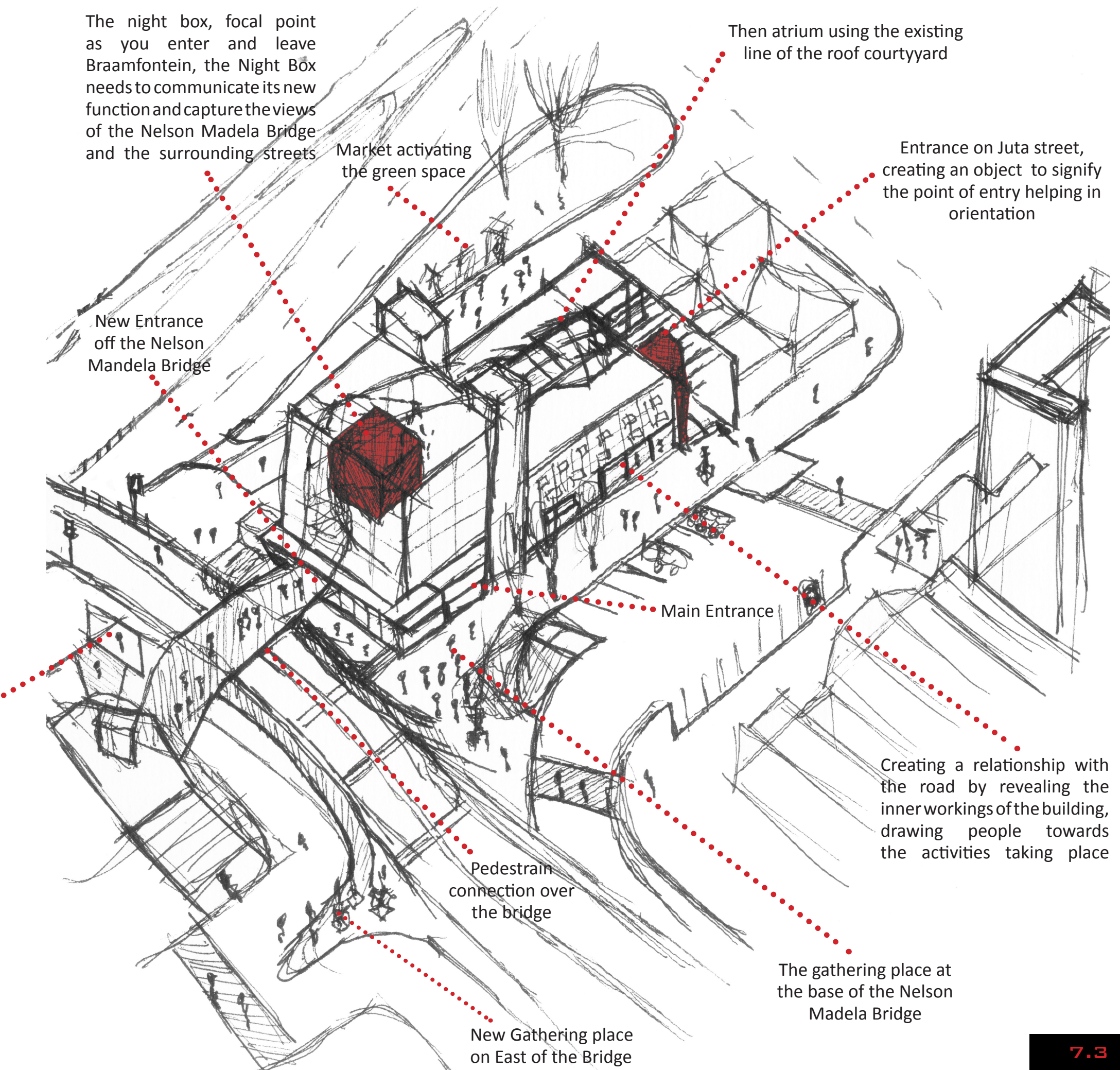
SPATIAL RELATIONS BETWEEN DIFFERENT COMPONENTS AND ACTIVITIES



PERCEPTUAL SPACE (THE MIND SPACE)









7.4  
LAYER 4  
MEMORY

# About Memory







NELSON MANDELA BRIDGE  
M27  
City  
Newtown

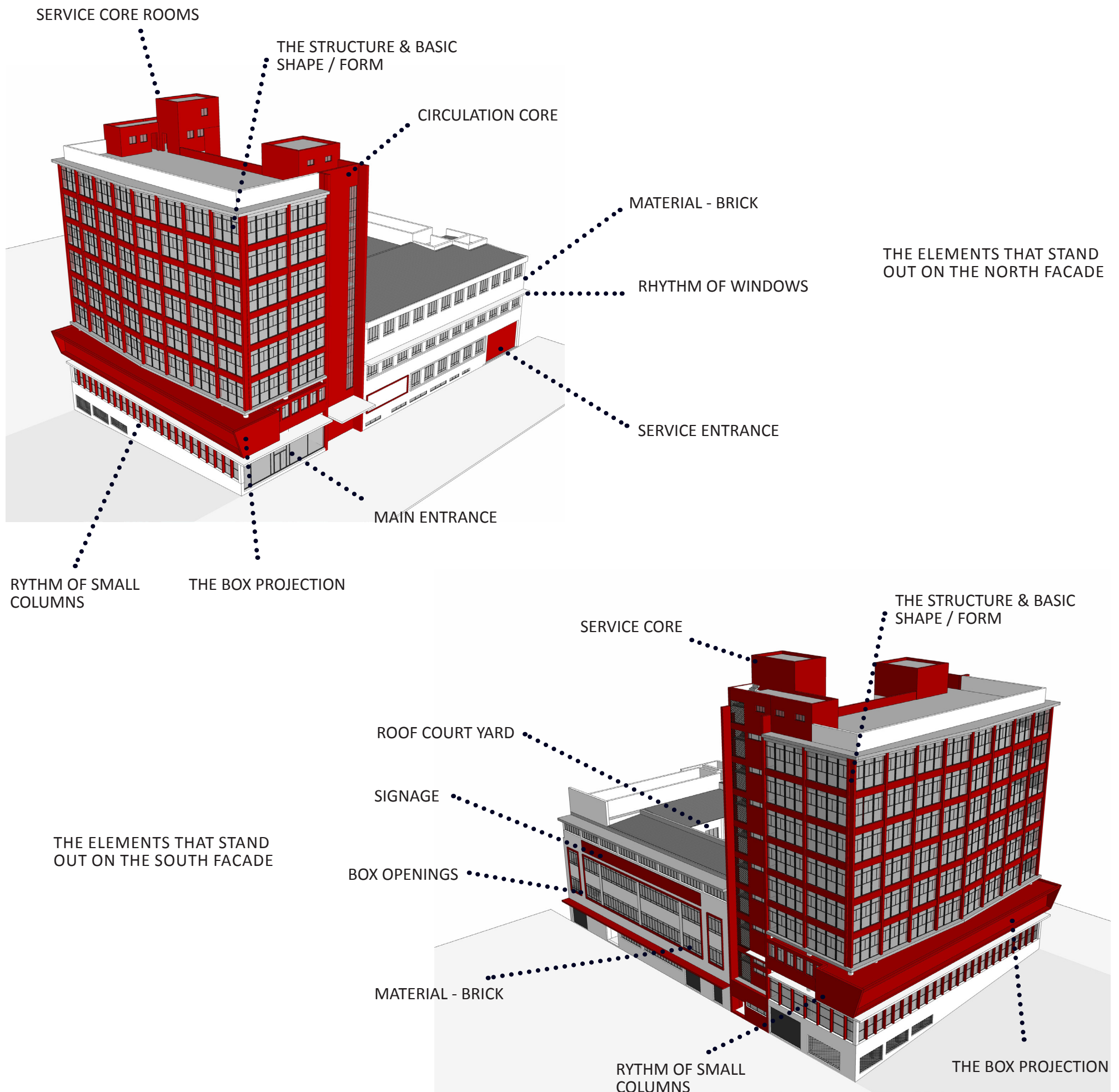
PRIME  
FOR  
SALE  
CONTACT: 011 551 1007

Audi Centre Johannesburg



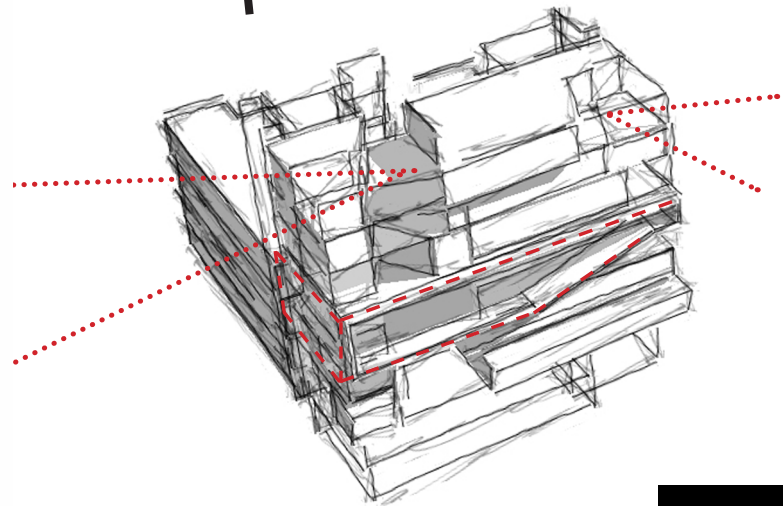
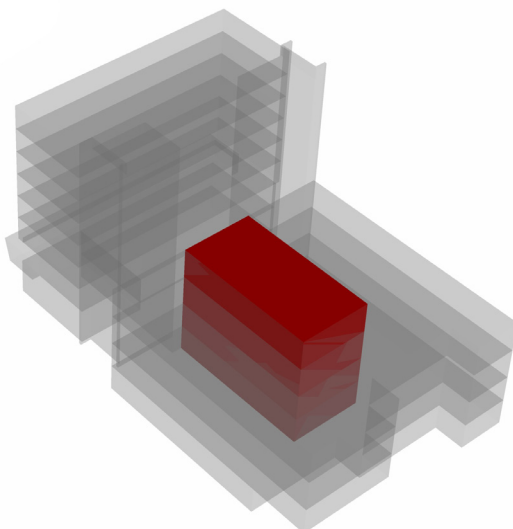
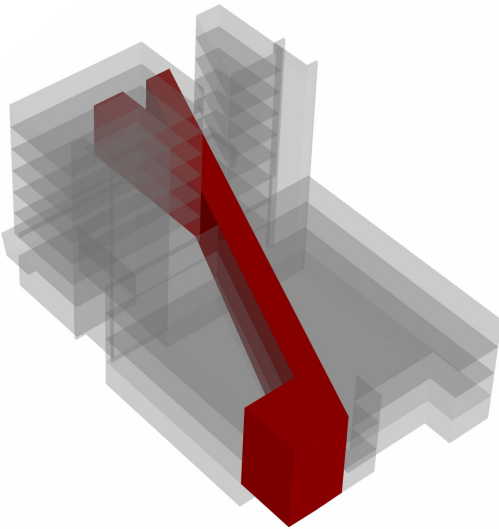
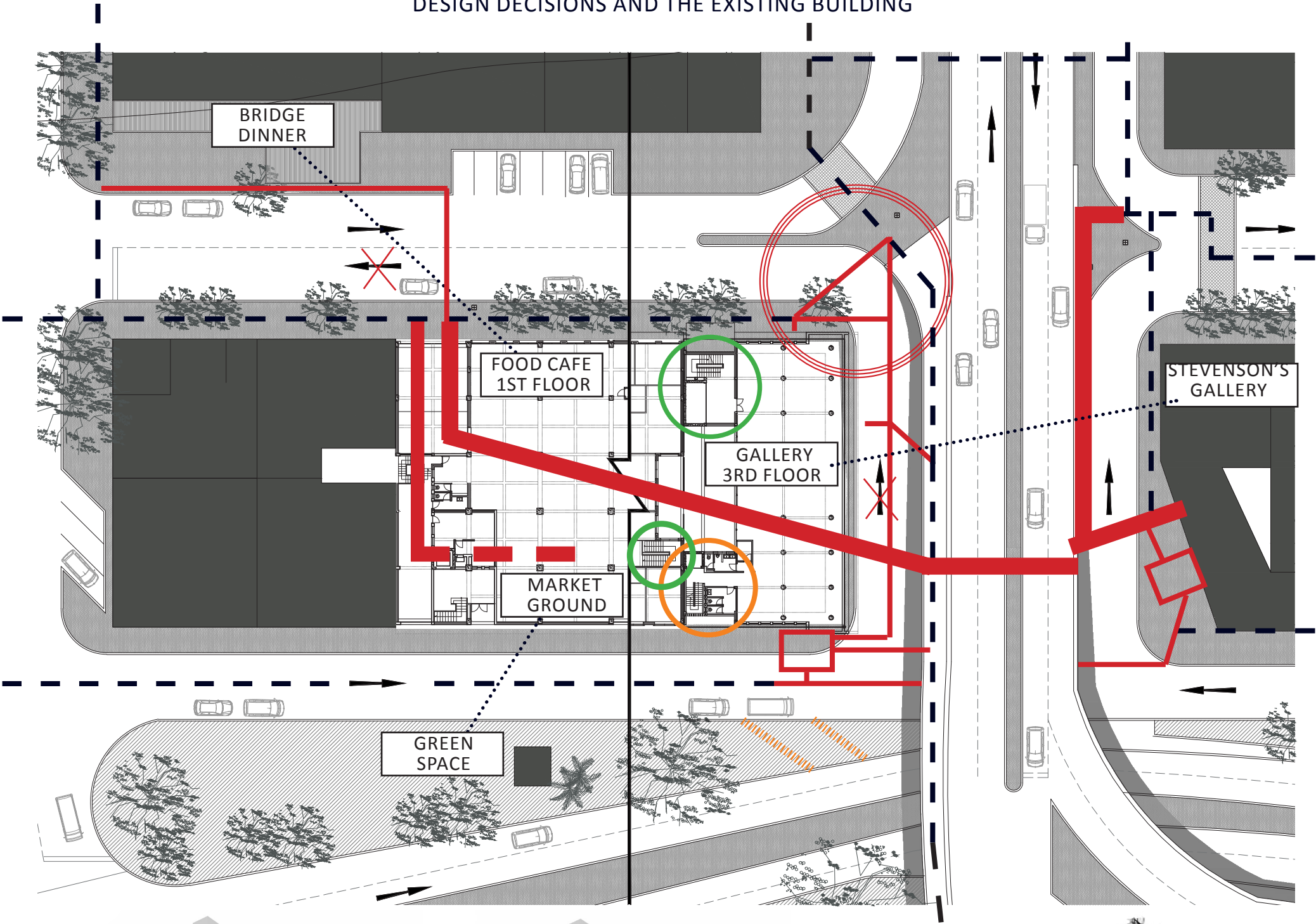
# MEMORABLE ELEMENTS

## MEMORY OF FORM & KEY ELEMENTS





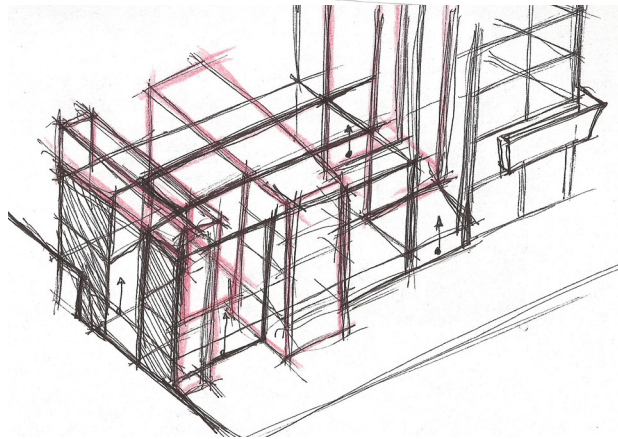
LAYERING CONCEPT LAYER1 + 2 + 3  
DESIGN DECISIONS AND THE EXISTING BUILDING



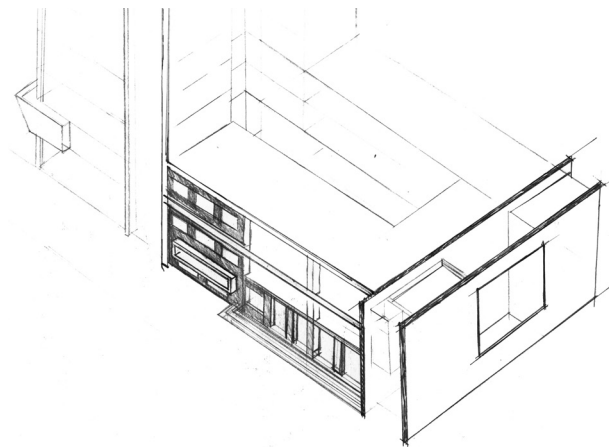


## 7.5 LAYER 5

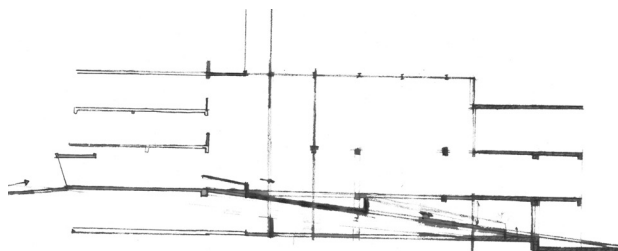
### COMBINING THE LAYERS TO FORM THE CHARACTER OF PLACE



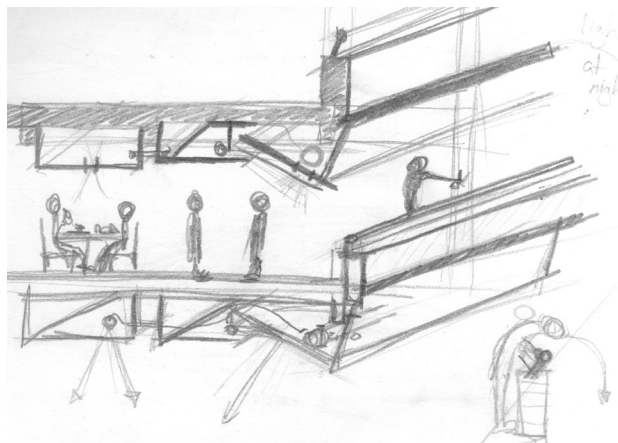
My first instinct to design was to explore the atrium and the potential volumes that could be created.



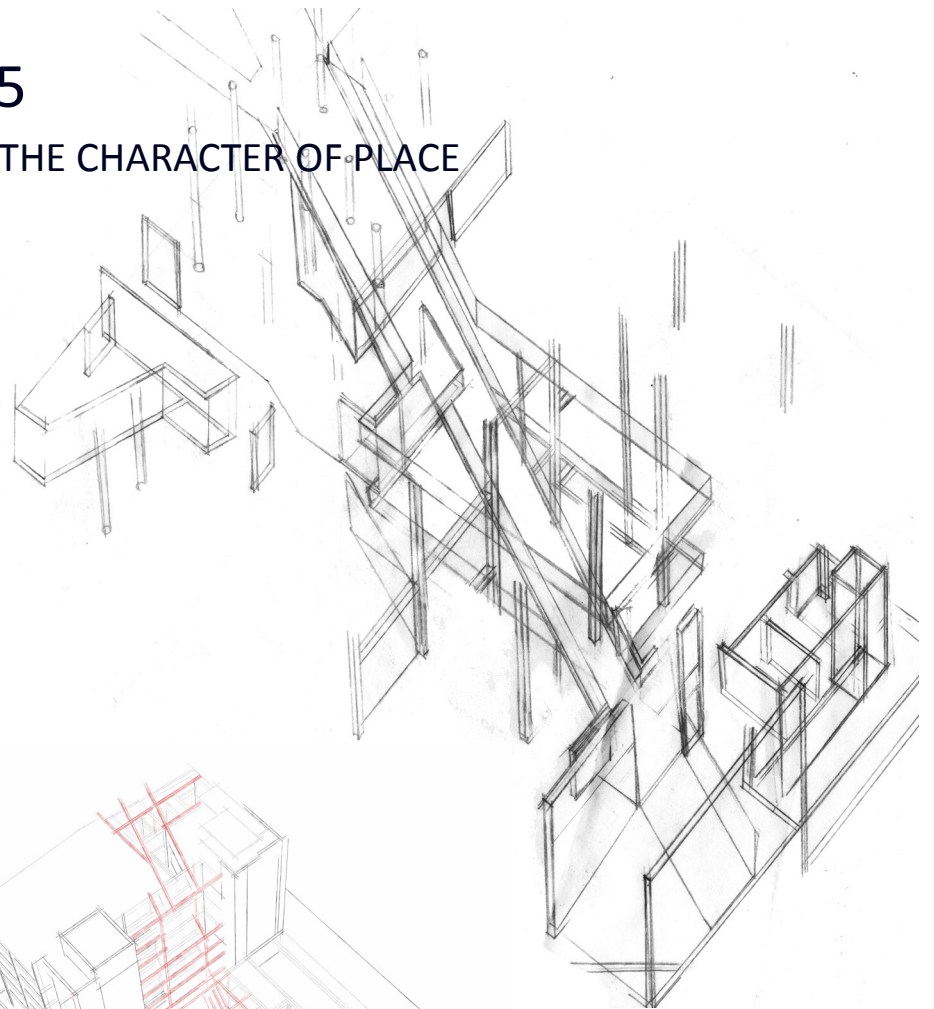
The entrance to Juta Street needed to be defined in a way to orientate people towards the entrance to the short cut through the building to the bridge.



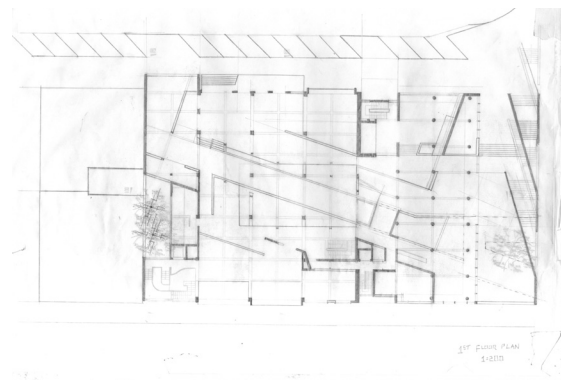
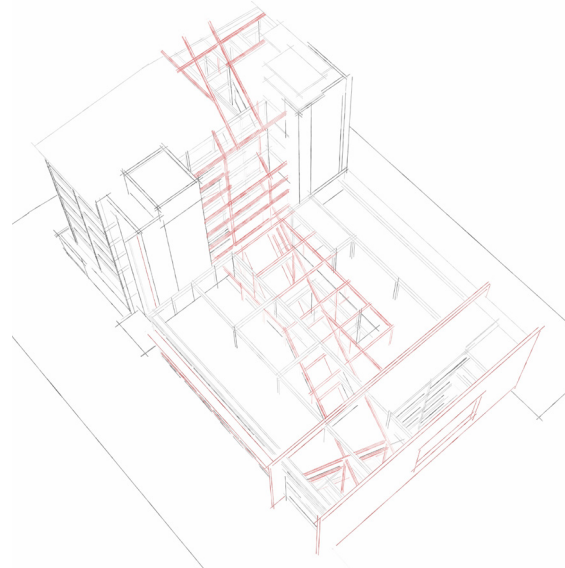
The building used a ramp to create the short cut. The ramp comes up to the level of the box project (60 Juta) and down to the existing service entrance on Juta Street.



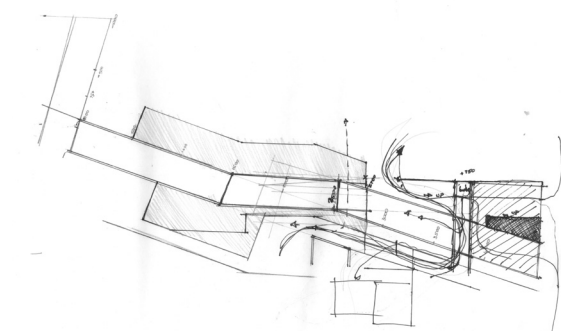
The atrium will allow for people to see what's happening in the floors above and below helping with the orientation in the building.



The ramp and atrium intersect helping with orientation through movement and views between the different floors.



The first design only began as a single ramp down for the bridge to Juta Street. The market was secluded from the design as there was only one staircase up from the market level.



Due to the ramp rising only at a ratio of 1:12. It was difficult to find the correct solution as the entrance had an issue with people moving around the entrance point.

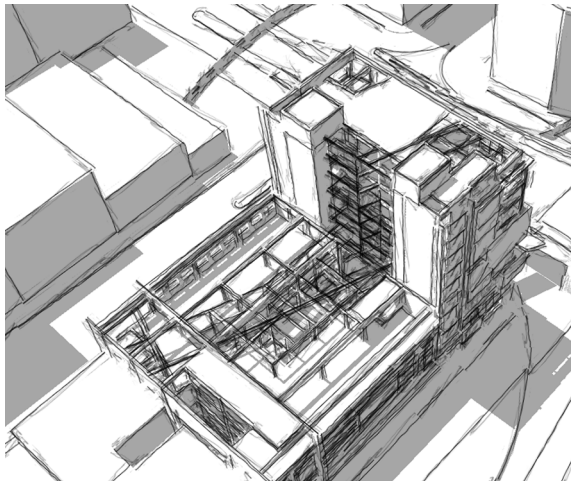




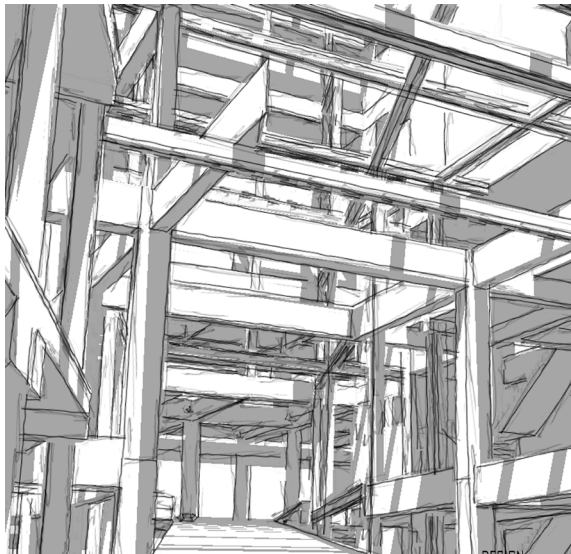
The spaces left over after working out the movement strategies became the spaces to house the activities.



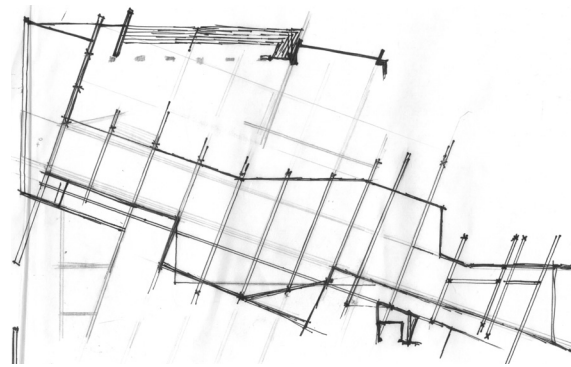
The offices were too big for the programme and needed to be reduced in size, the circulation around the ramp was not yet working.



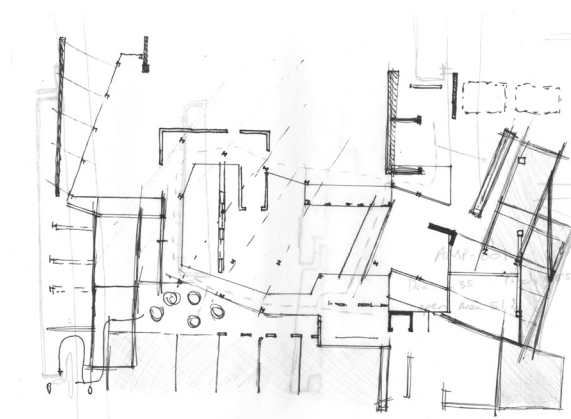
The idea was that the ramp would carve light into the building as it went through and create a scar through movement.



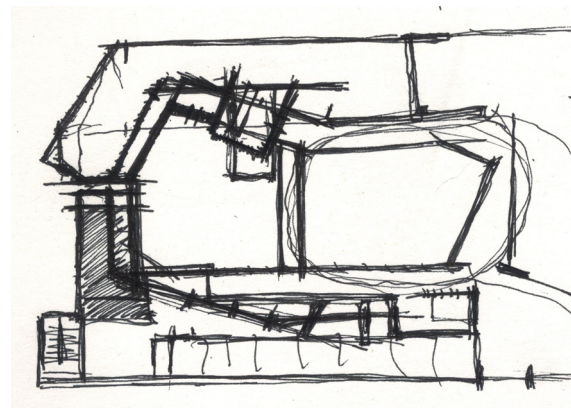
The atrium and the ramp had some difficulties with the columns and needed to be removed. The atrium became very busy and difficult to orientate within. A minimalism had to be introduced into the design.



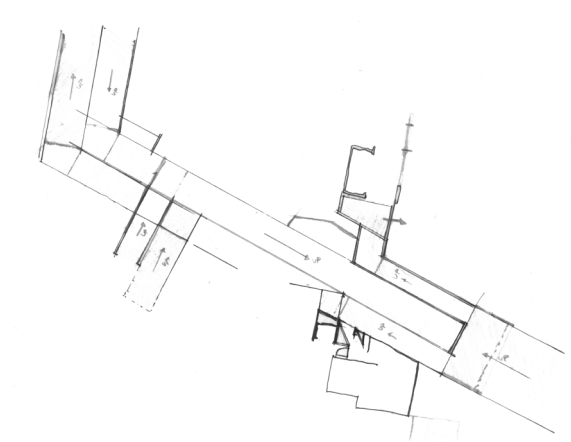
The atrium and structure began a relationship creating and juxtaposition between the old buildings structural direction and the new building relating to the angle of the ramp.



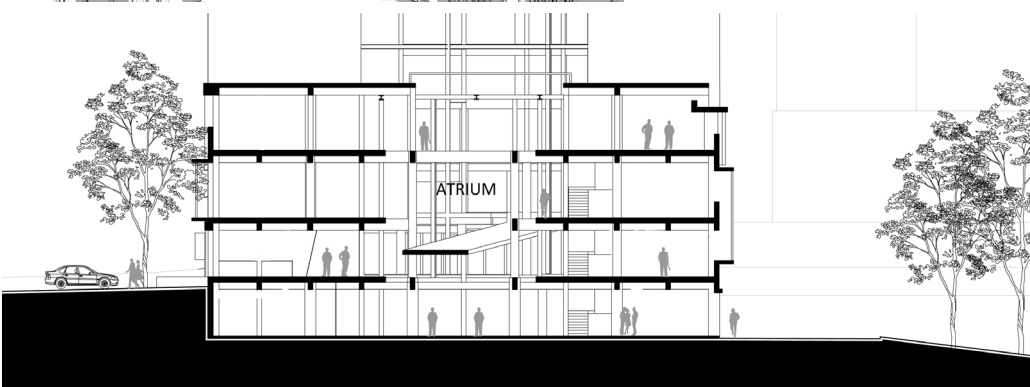
The atrium works in a circular pattern of movement. Paths across the atrium were introduced to fix the issue of movement around the bridge entrance.



The building's internal facade began to take shape created by movement around the space. The entrance at Juta Street started to become an object for orientation.

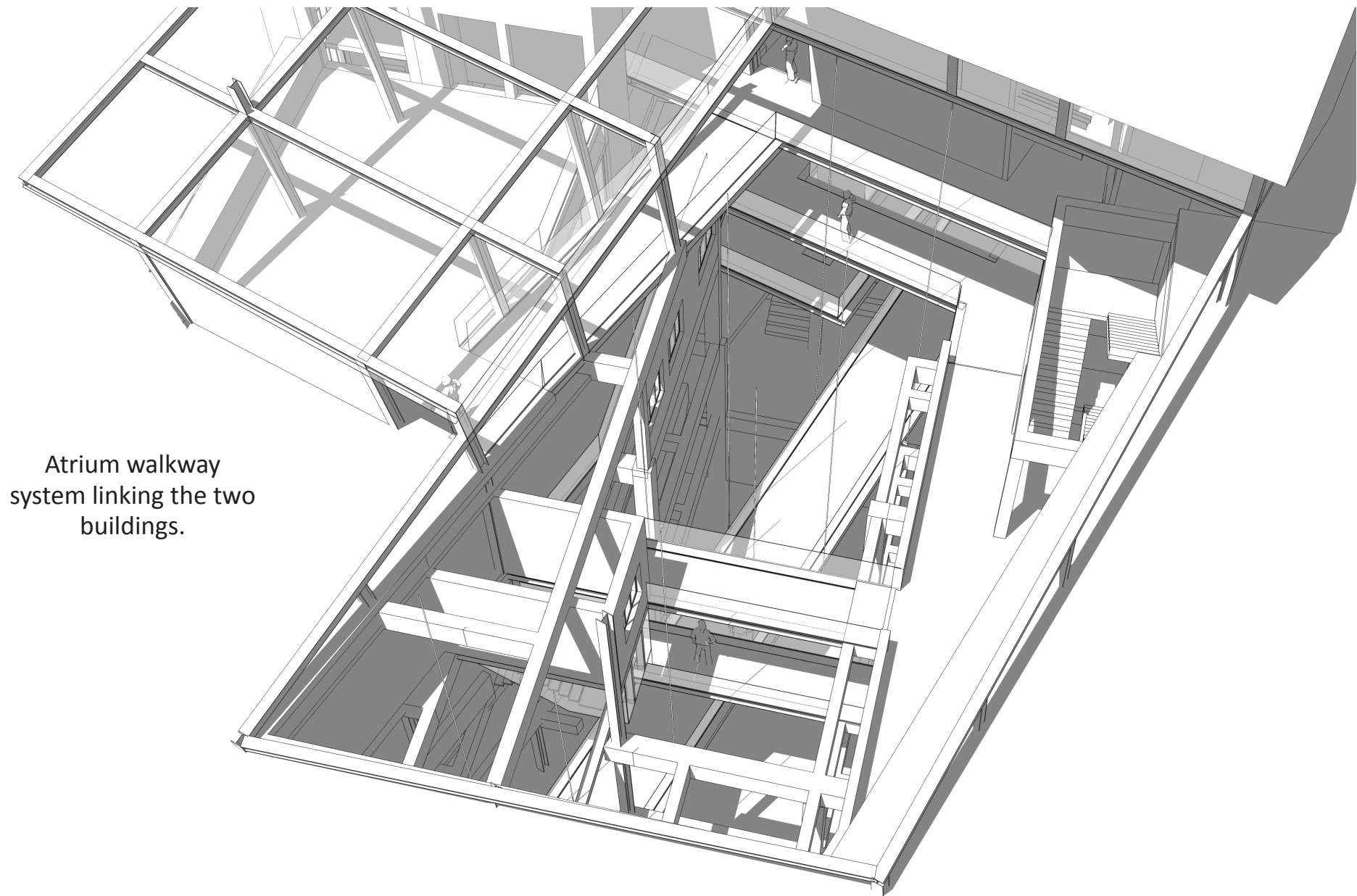


The development of the ramp down to the market created a lot of issues with regards to head heights and to removing too much structure. The ramp from the bridge attached itself to the cores freeing the entrance and shortening the ramp in length.

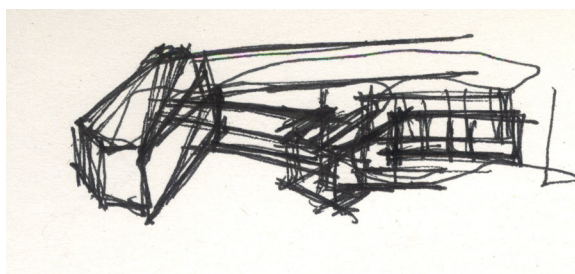


The ramp and the atrium started to take shape and this was beginning to make the building easy to orientate from within. The functions were placed next to each other within the building so that they would attract business for each other. For example the coffee shop across the atrium from the fashion shops.

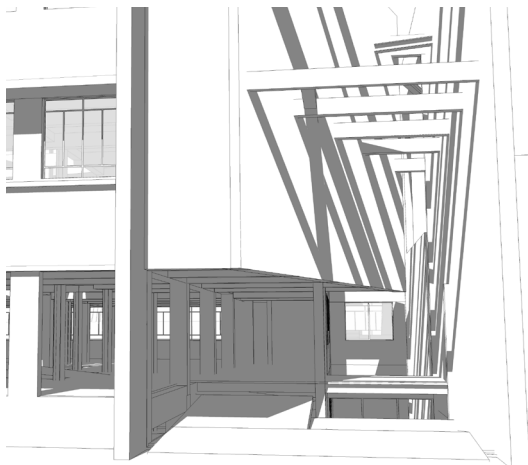




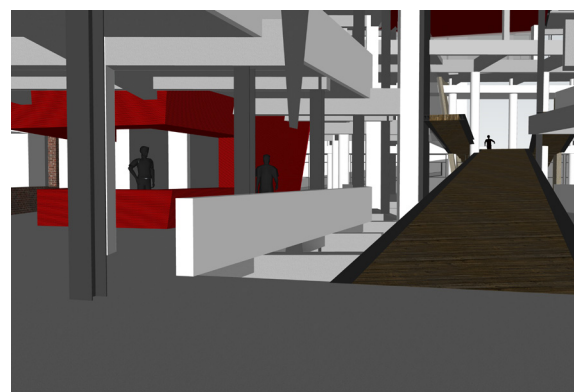
Atrium walkway system linking the two buildings.



Sketch of the gallery tail or the Juta Street entrance.

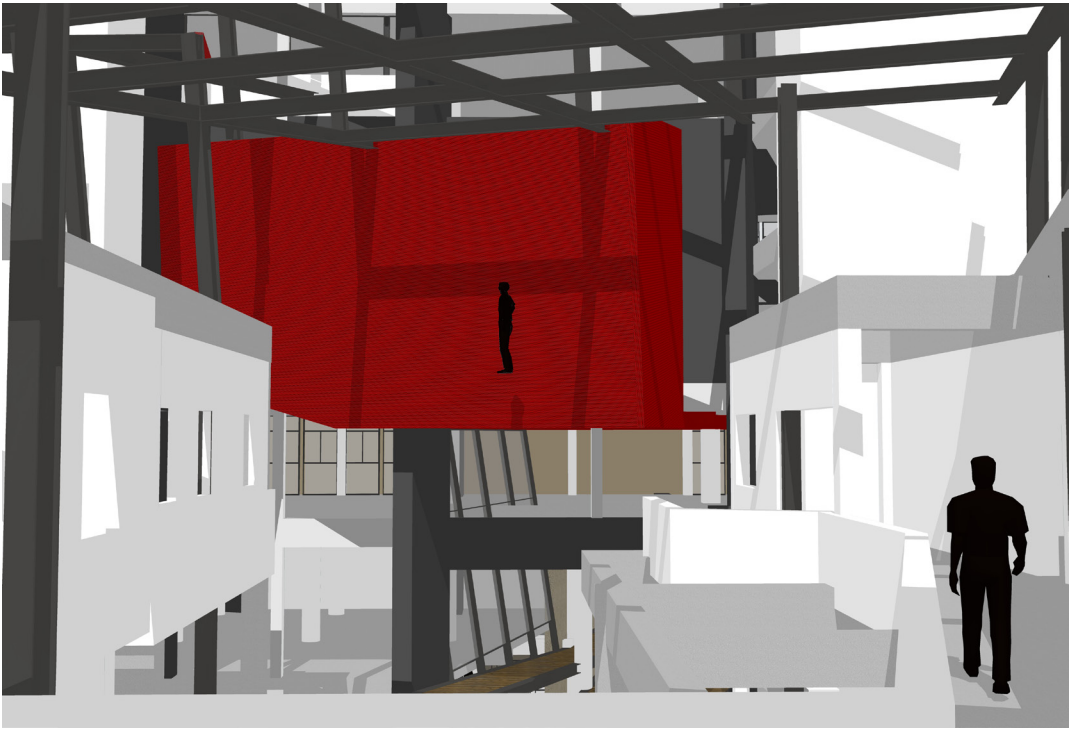


Playing with light, casting shadows from the exiting beams into the building.

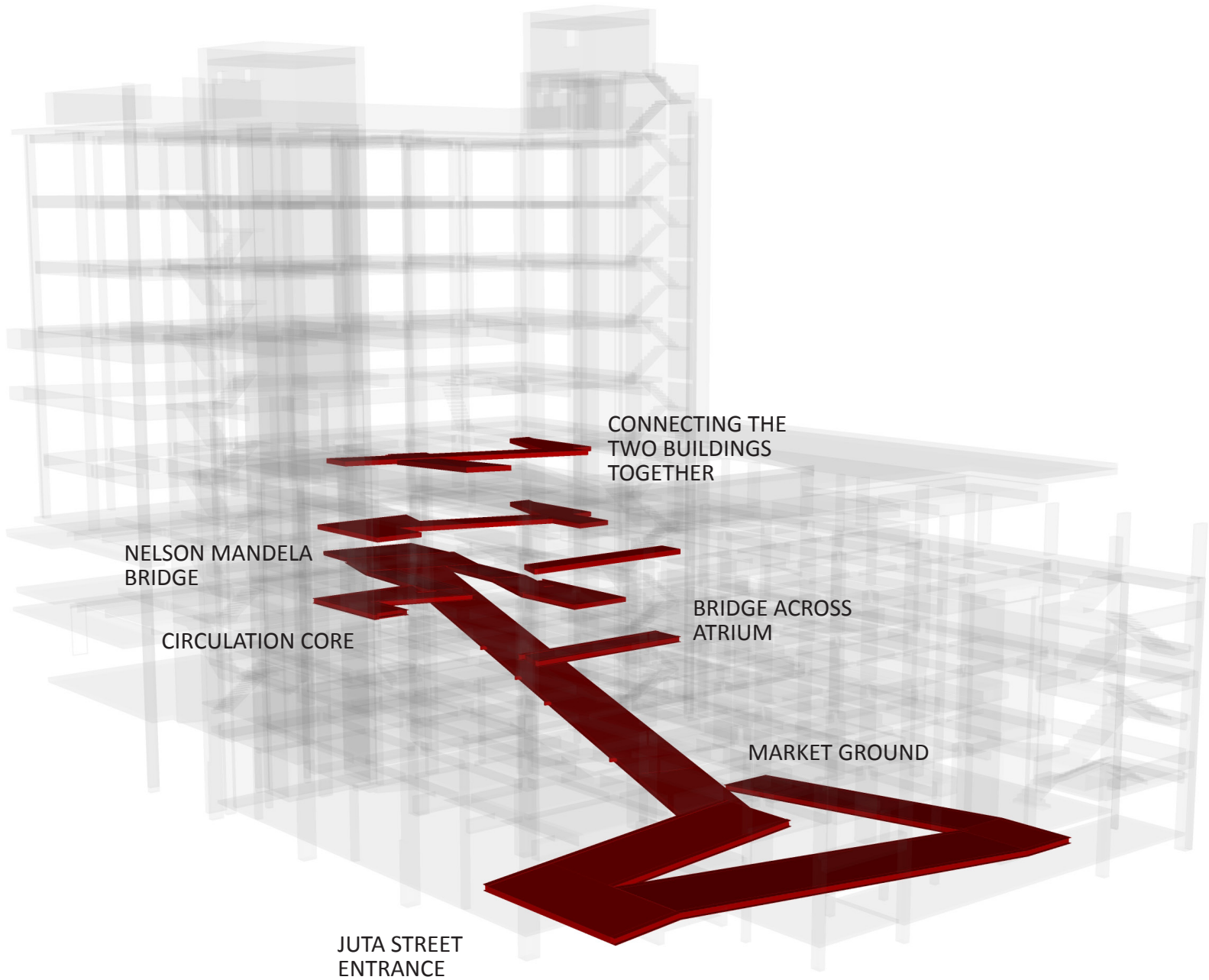


Functions are becoming objects for orientation viewed while moving up the ramp.





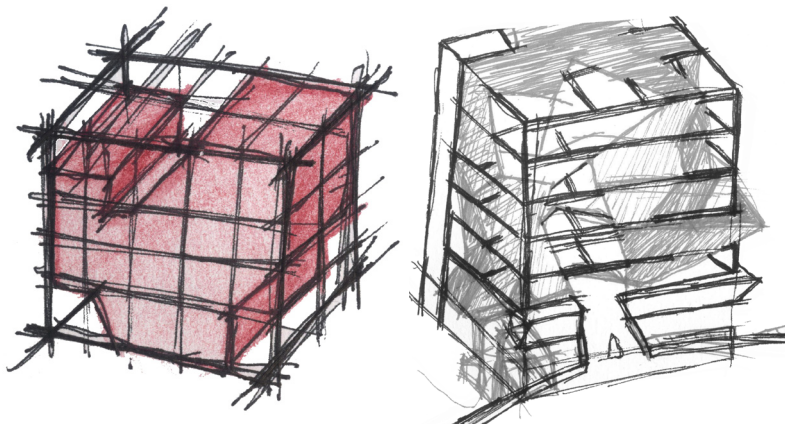
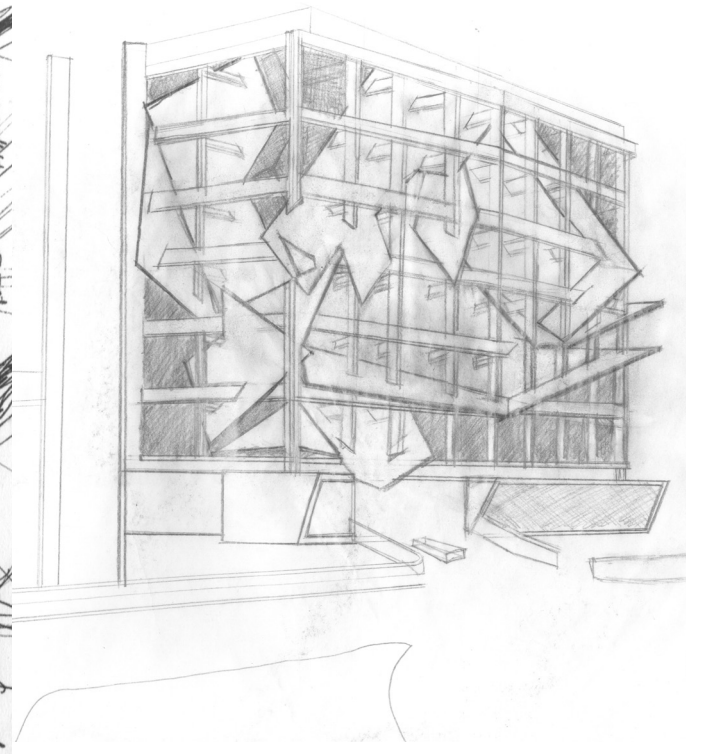
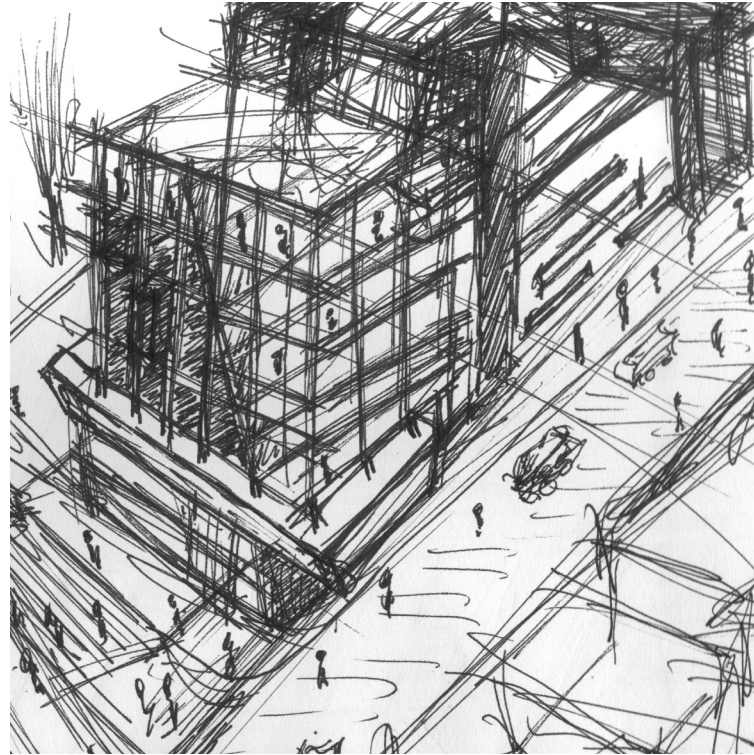
The night box, is a focal point as you enter and leave Braamfontein, and the it needs to communicate its new function and capture the views of the Nelson Mandela Bridge and the surrounding streets but at the same time the night box objects need to be seen from the atrium in order to make a mental map of our position within the environment.



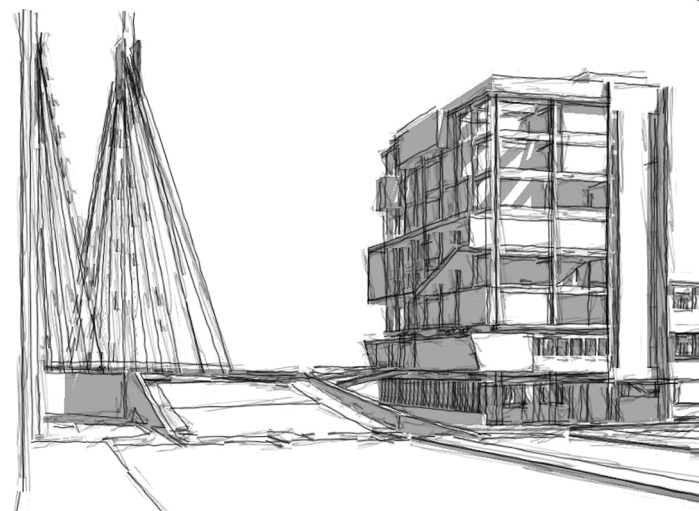
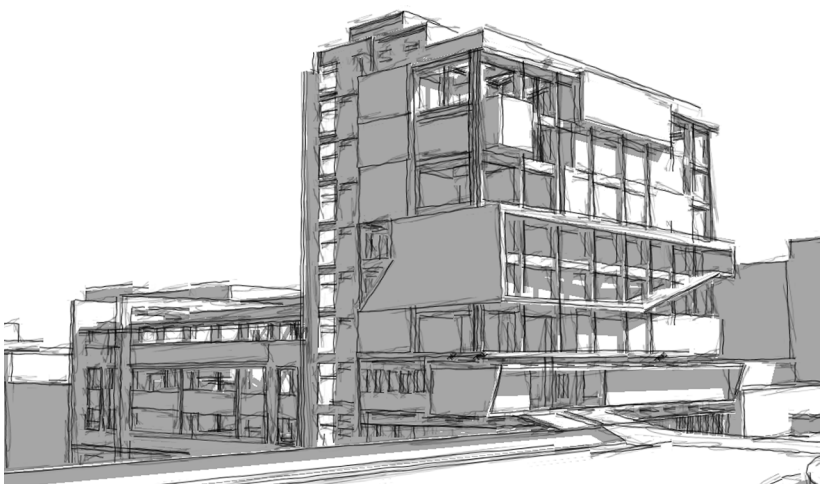
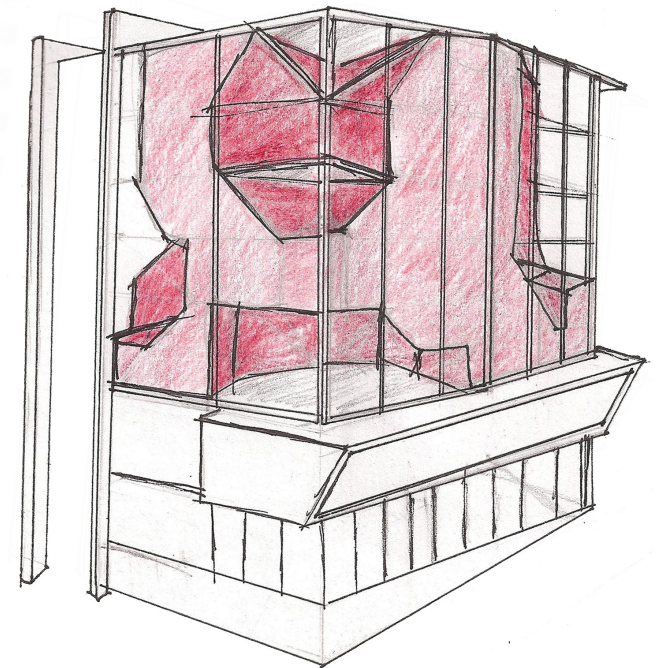


## CREATING THE NIGHT BOX SCULPTURE

First sketches of the Night Box exploring the relationship between inside and outside.

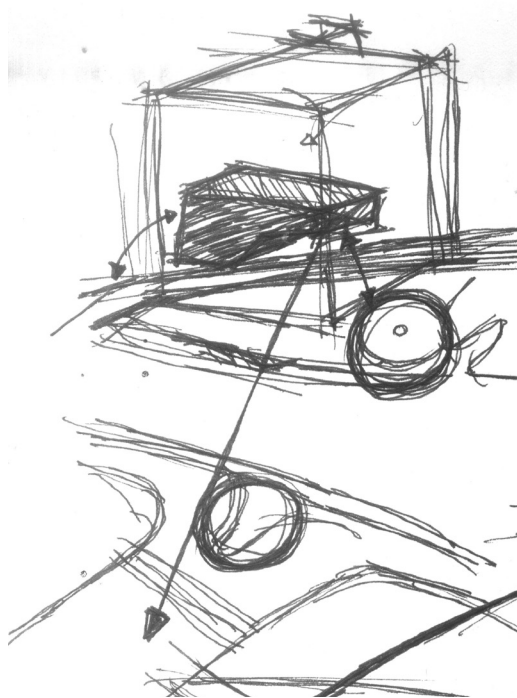


The Night box needed to explain to the surrounding what its function was. A sculpture is an art form and a deductive process. The sketches explore the possibility of carving views and the relationship between inside and outside within the existing structural box



Massing the programme into the Night box showed a clue as to how to create the sculptural Night box. The auditorium reads stronger as an object within the existing buildings structure.

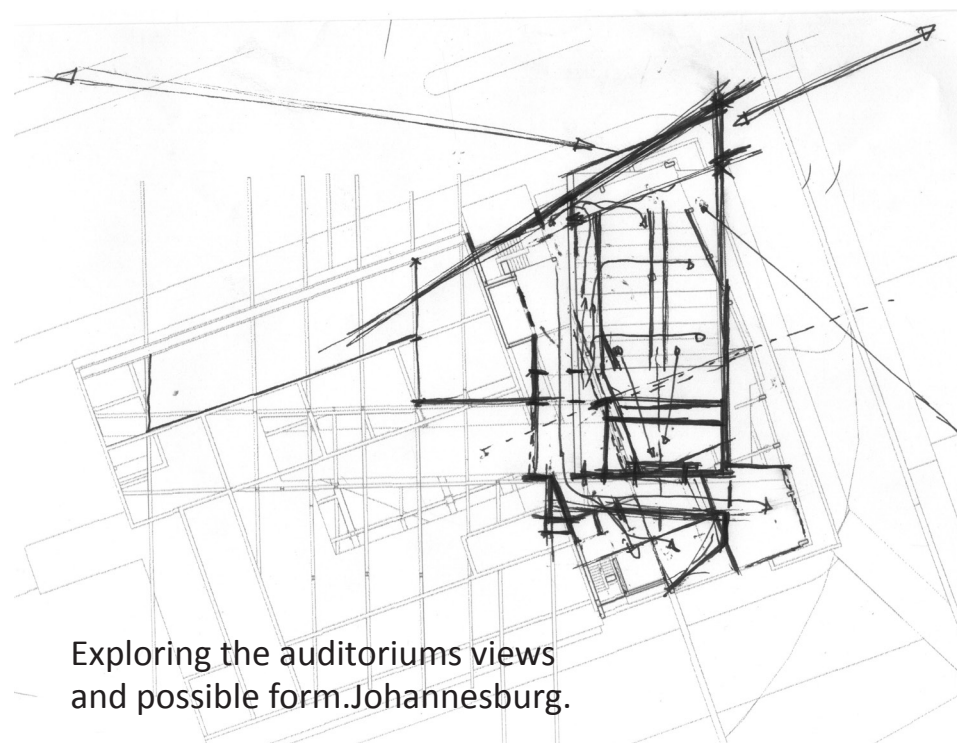




The Night box could become objects (the functions) that hang in the existing building frame resembling a sculpture. The function or object can remove and carve the existing space around it. Pointing the function in the direction of the view would allow for the carving and orientation of the sculpture to the surrounding environment.



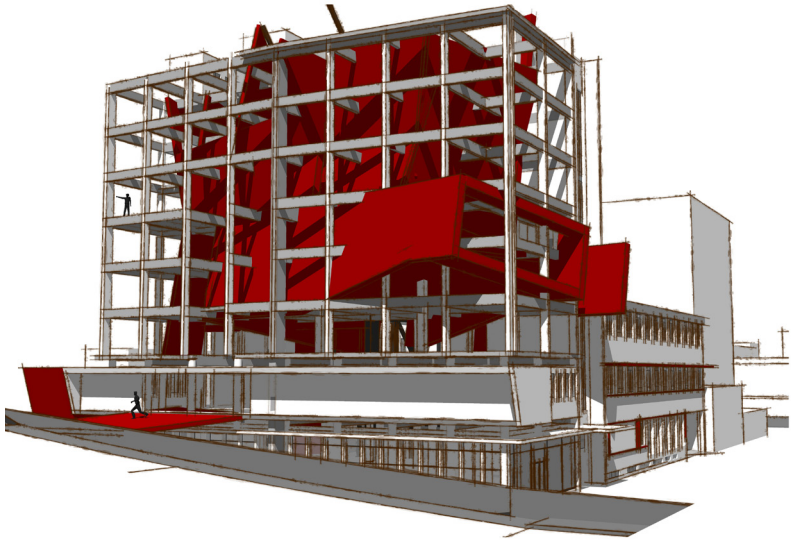
Auditorium waiting happens on a new concrete roof. The roof will become gardens from which people can view the city of Johannesburg.



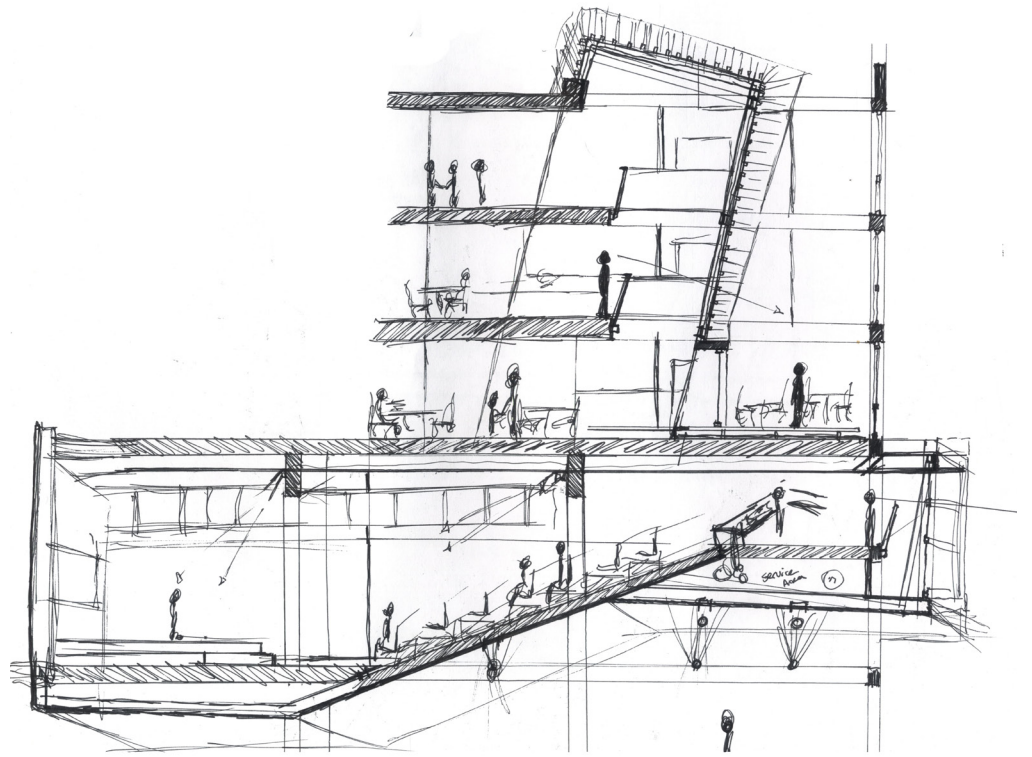
Exploring the auditoriums views and possible form. Johannesburg.

The auditorium orientating to the gathering space and creating a relationship with the ramp angle and the view up Bertha Street and Juta street east.





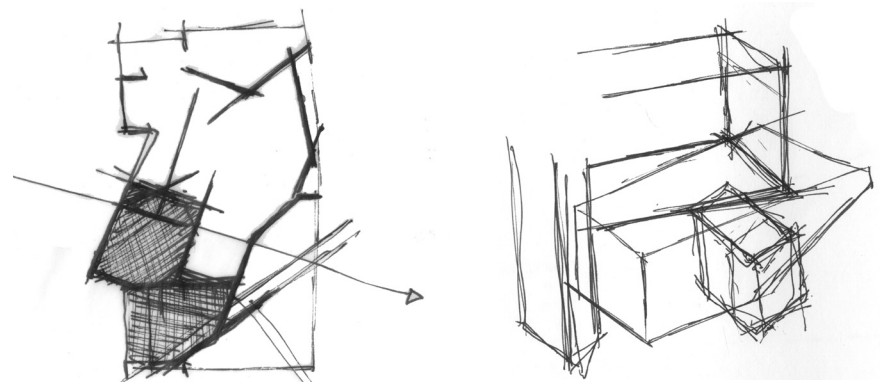
The Night box taking shape. The restaurants don't look like anything and it was difficult to tell what was the restaurant and what was the events hall. The auditorium started giving the building an environmental character.



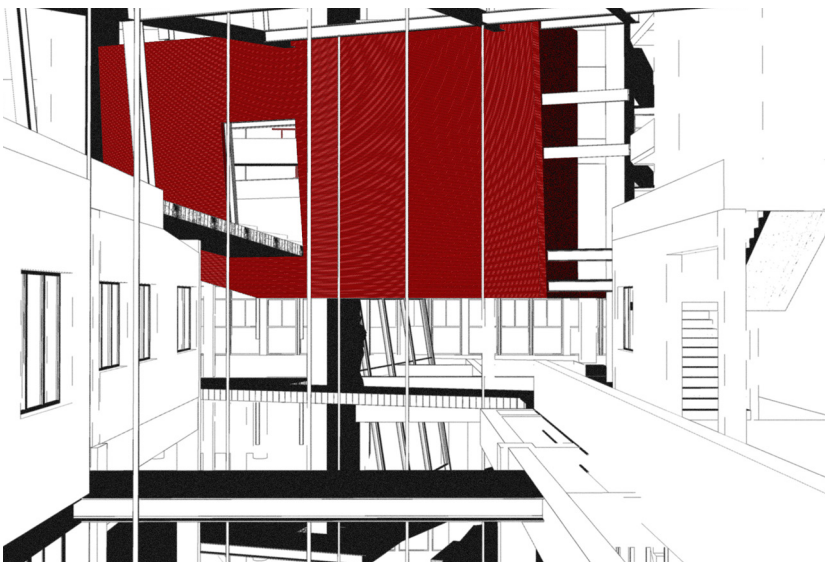
A sketch of the Night box in section showing the relationship between inside and outside.



The colour red was chosen so as to create a memory of the building's red cores. The red also makes a great juxtaposition between the old concrete frame. The auditorium box can be seen from the outside and from within the building, thus creating a triangle between the object; the environment and the user, helping to pin point this position in space.

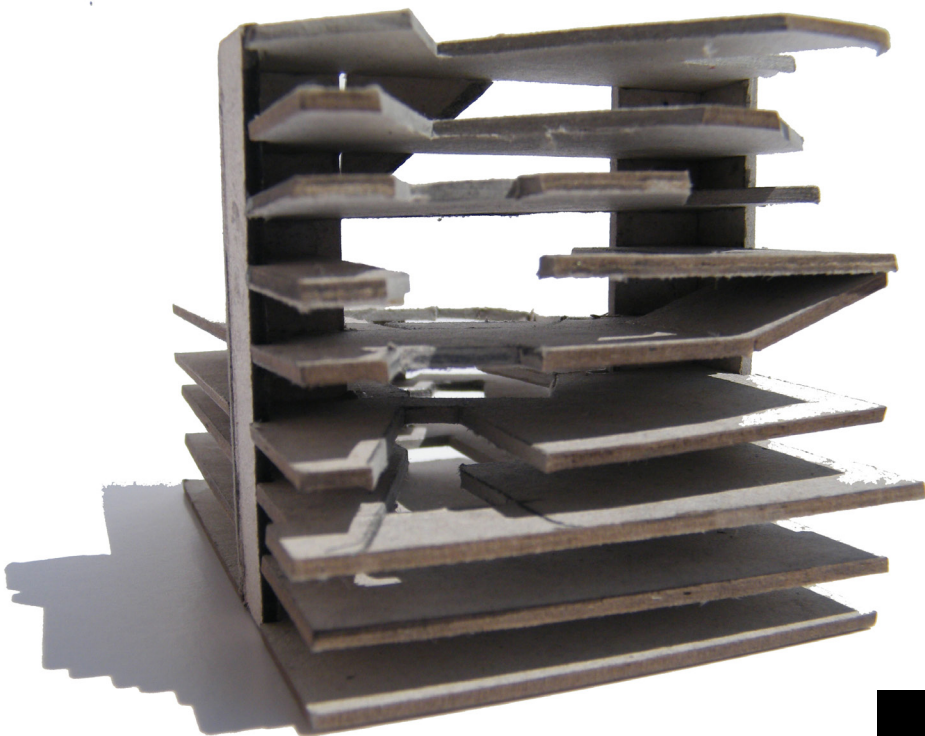
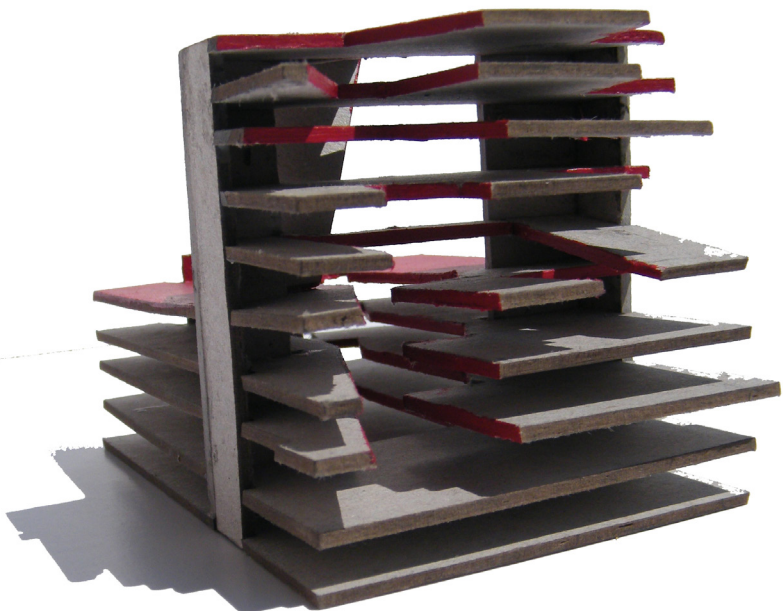
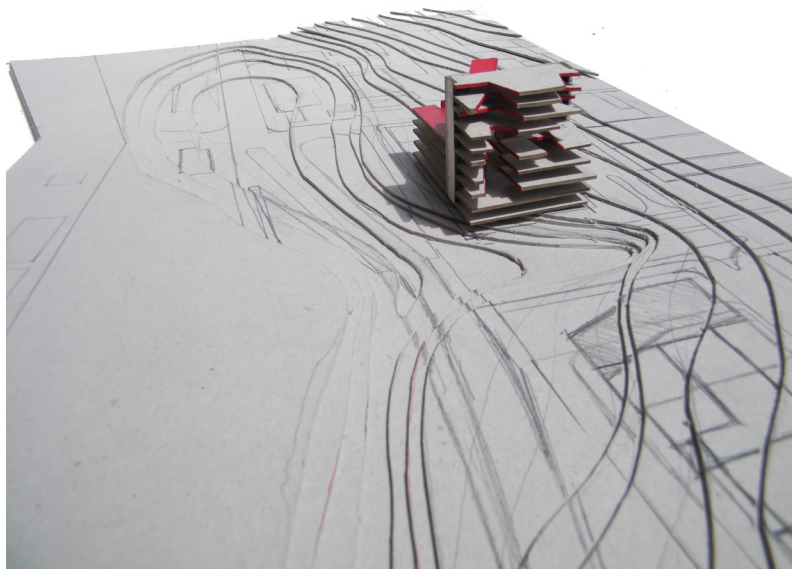
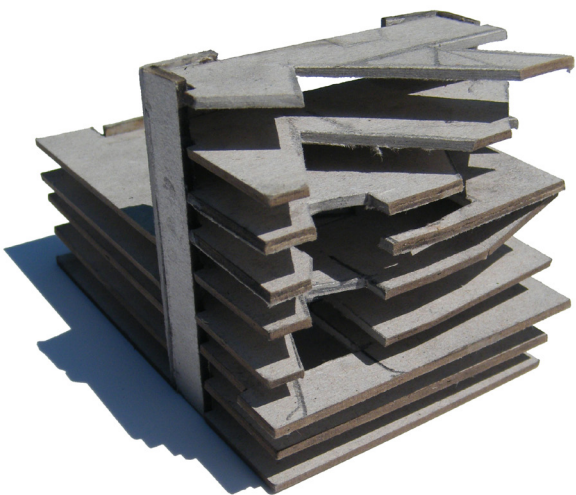
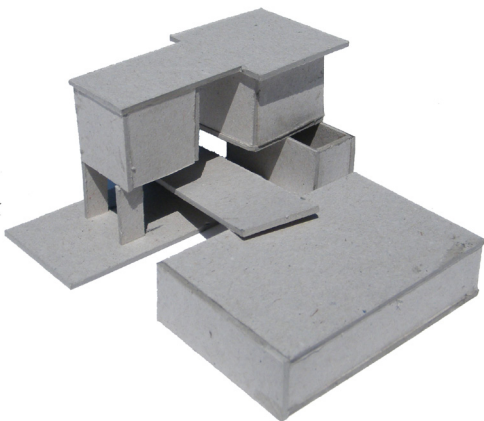
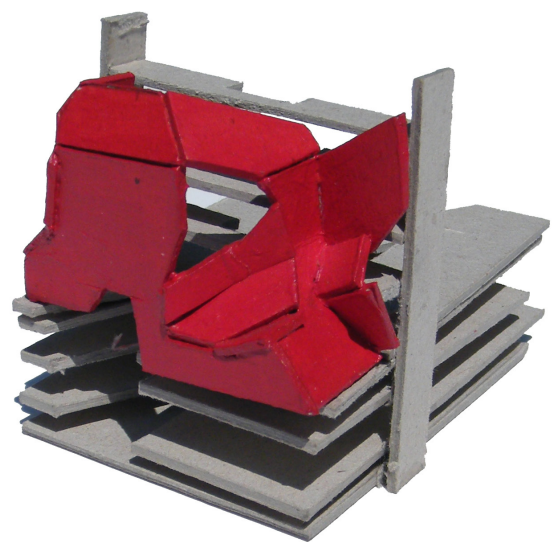


The restaurant and events hall began shifting and tilting in relationship to the Nelson Mandela Bridge creating the new Night box sculpture.





EXPLORATION THROUGH MODELS





# TECHNICAL COMPONENT 8.0

REDUCE, REUSE & RECYCLE >> 180 - 187

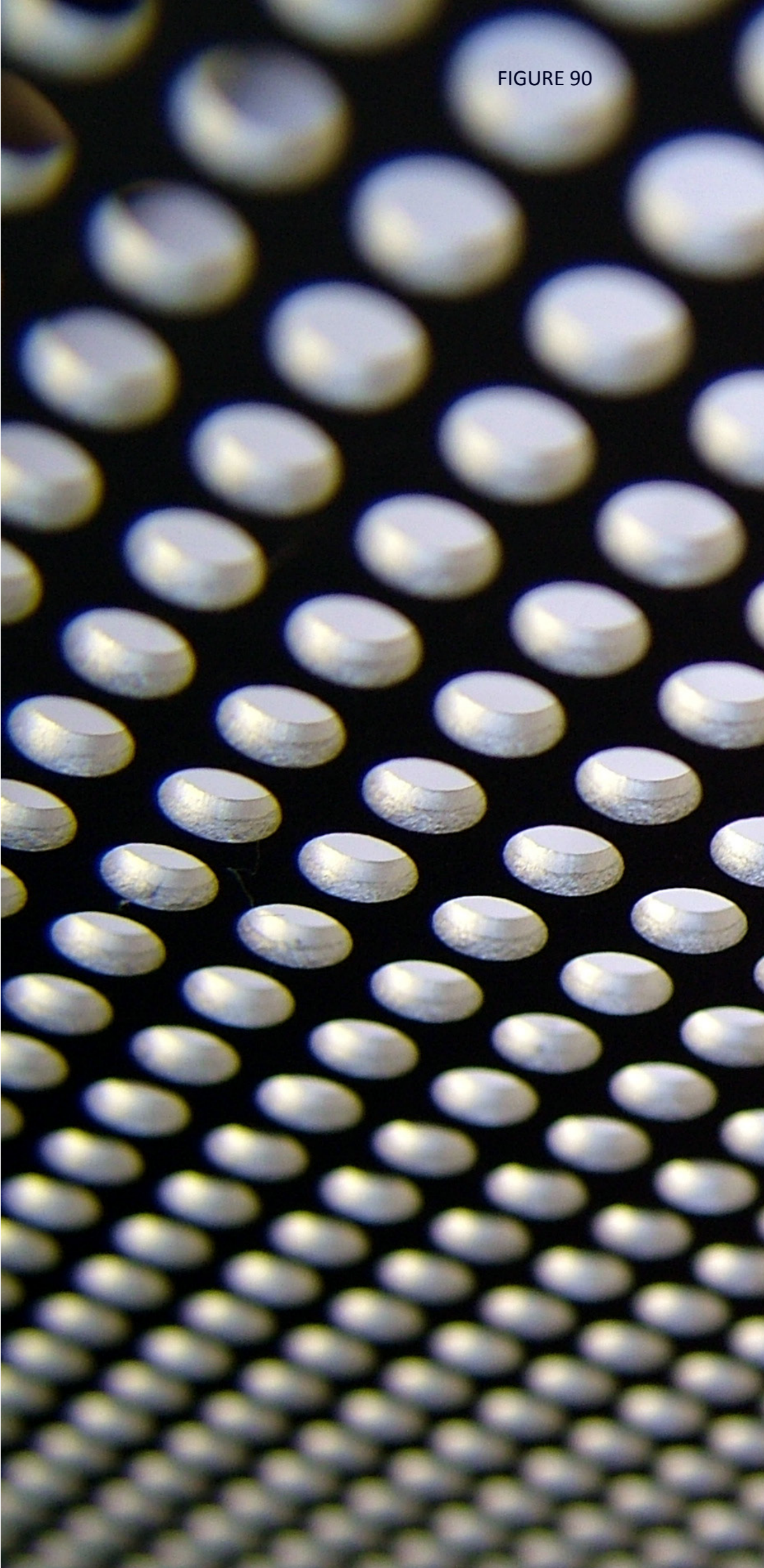
8.1 A PROCESS  
REMOVAL, STORAGE AND REUSE

8.2 THE MATERIALS  
JUXTAPOSITION

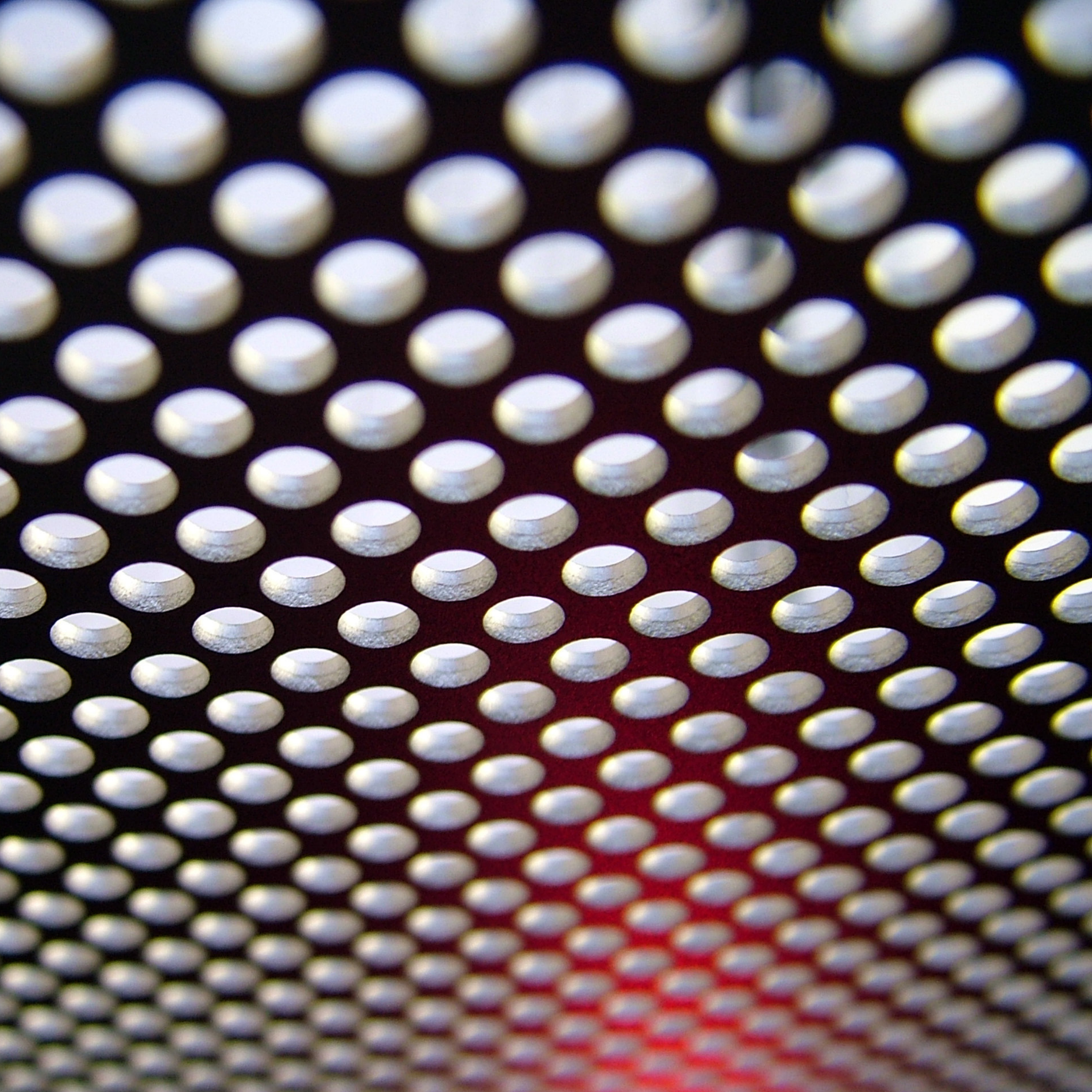
8.3 A GROWING STRUCTURE  
A STRUCTURE WITHIN A STRUCTURE

8.4 A TYPICAL DETAIL  
THE CONSTRUCTION

FIGURE 90









REUSE

RECYCLE

REDUSE

FIGURE 91





## 8.1 A PROCESS

### REMOVAL, STORAGE AND REUSE

The Existing building needs to be prepared for construction. The parts that need to be kept must be specified. Some elements such as the windows will be removed temporarily and stored off site. The existing materials not used in the design must be modified to a new function to continue the memory of the old on a smaller scale. All the removed materials that don't get reused must be recycled if possible.

The concrete structure must be checked by an engineer for faults and defects as the building has aged of the years. Defects must be fixed before construction can begin.

The Roof sheeting and purlins can be reused to create the outside market stalls

Steel I beams can be reused in the new design. Example free standing gallery walls (reuse as a frame)

Windows not used in the design can be reused to create market stalls.

The Brick facade must be protected from damage. Modifications and new brick work needs to match the existing where specified

The night box windows need to be removed and stored off site as to prevent damage to the existing components. The windows will be repainted and glazed before reinstalled in the new design. The windows are made out of steel making it easy for modifications to suit the new design.

The construction process needs to be sensitive to the memory of the existing building which will add time to the construction. The existing building construction is labour intensive rather than material intensive, protecting the environments resources.



## 8.2 THE MATERIALS JUXTAPOSITION

The Existing building is mainly constructed out of concrete and brickwork. In order to create the Juxtaposition between the new and old, alternative construction methods and materials can be explored. If an existing building generally outlives its function in forty years, the materials used must be recyclable and easy to remove from the existing concrete structure. Steel and wood are fully recyclable and will make a great juxtaposition against the existing concrete frame. The materials must be sourced locally as this will lower the buildings carbon foot print (proximity). The three main materials chosen for the new design will involve steel, perforated aluminium panels and wood for applications such as decking which could be use for the ramp system and the outside sections of bridge restaurant.

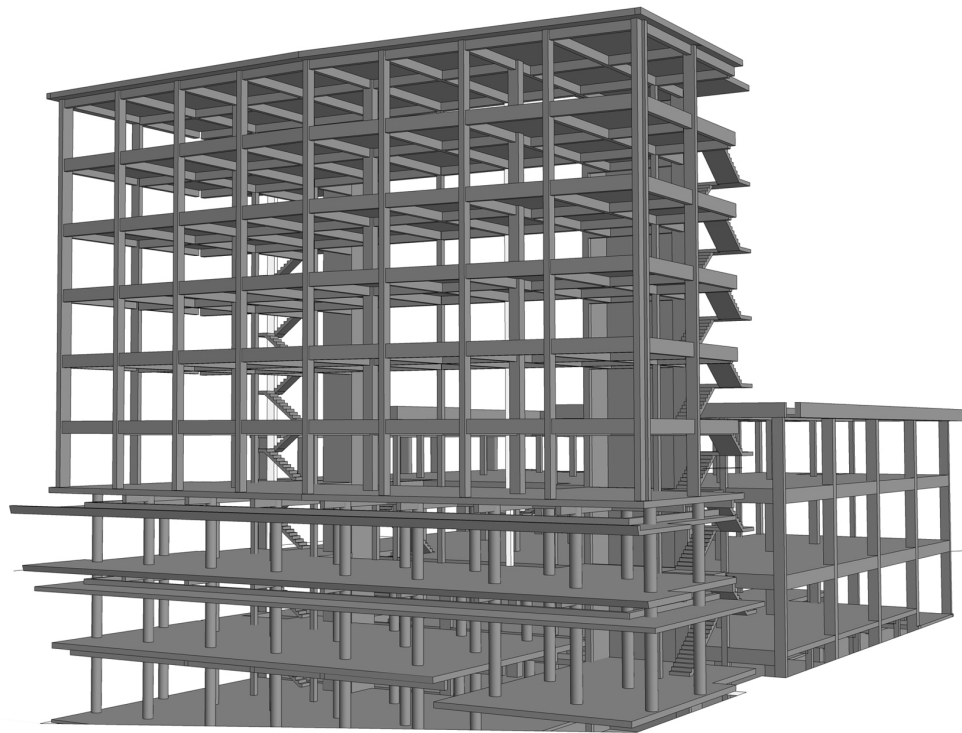


FIGURE 93

Perforated aluminium comes in an array of sides and shapes depending on its function. The openings (holes) range for 20% to 65% coverage allowing for the building to use a smaller coverage on the west facades as compared to the north.

FIGURE 92



Balau timber is commonly used in south Africa and if treated with a water sealant like traffic, the timber can last for years. Should a board become tired, it can easily be replaced with minimal impact to the buildings activities.

FIGURE 92

Steel can be prefabricated off site saving in the time for construction.



FIGURE 94



FIGURE 95

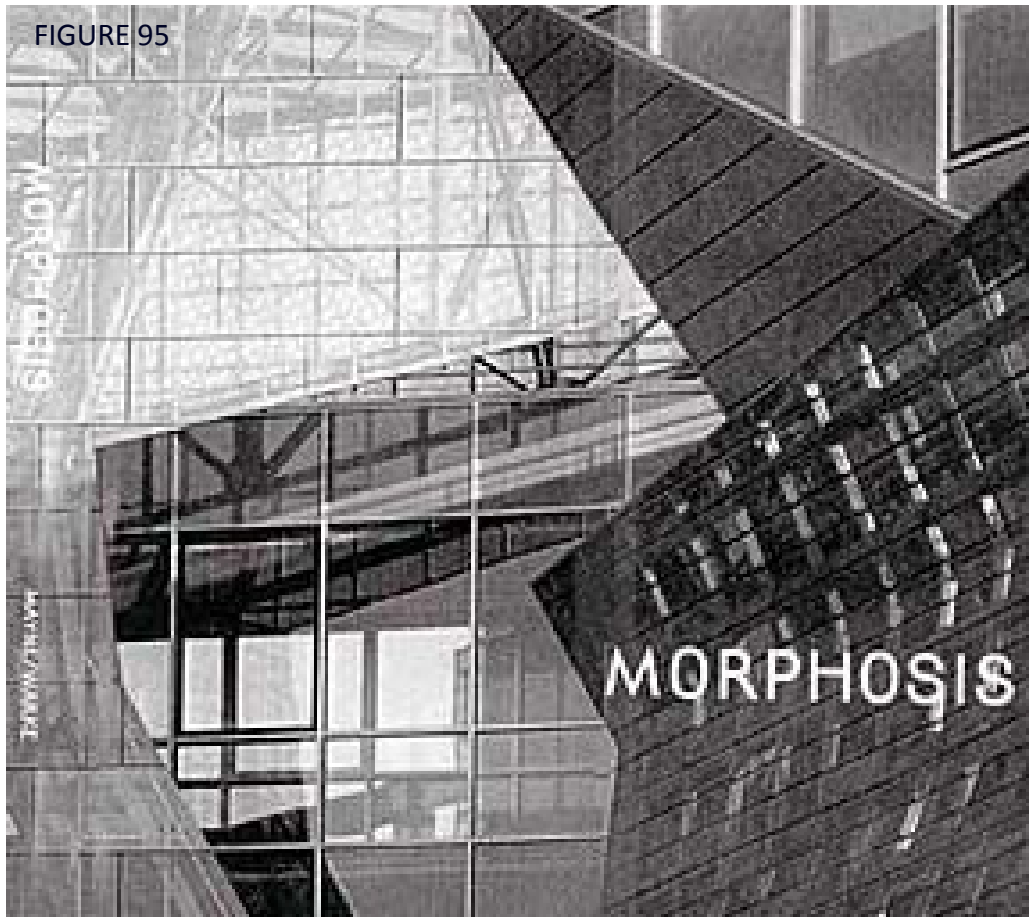
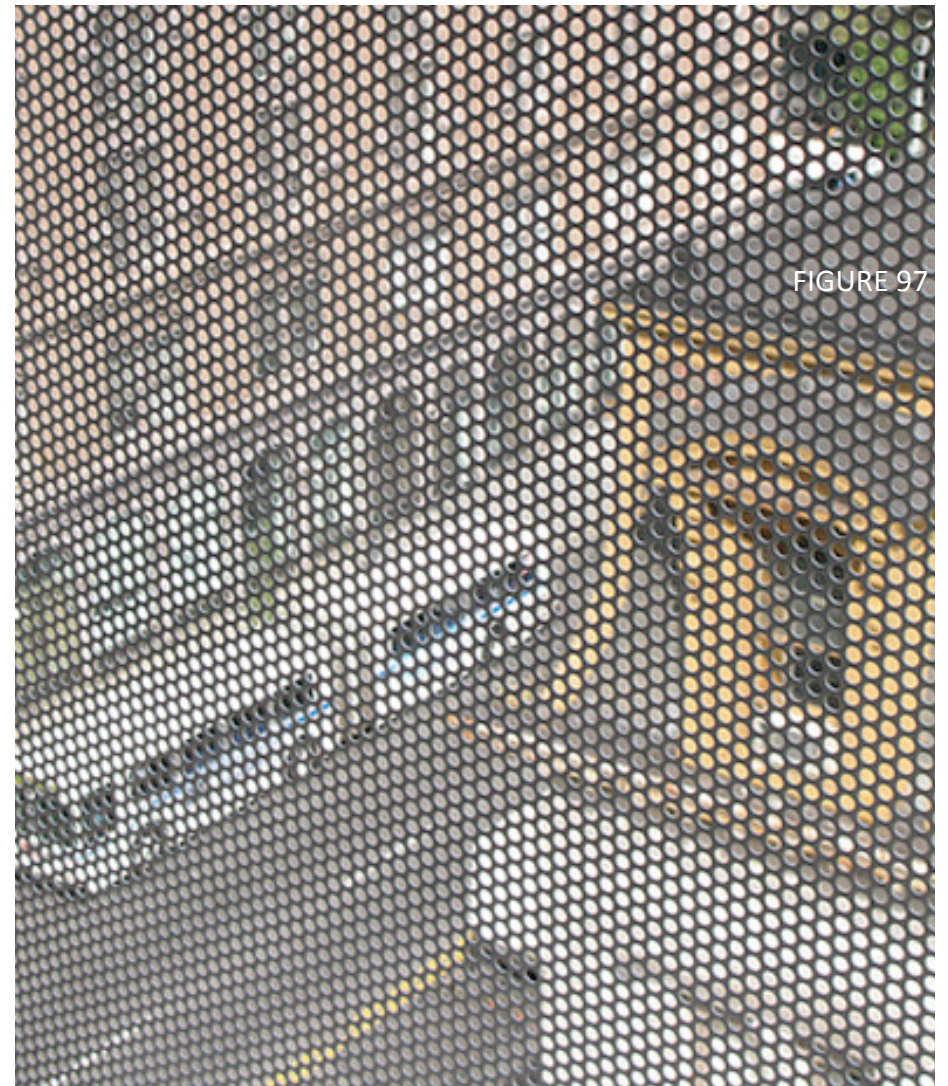


FIGURE 96



FIGURE 97



Perforated metal allows of transparency between inside and outside.



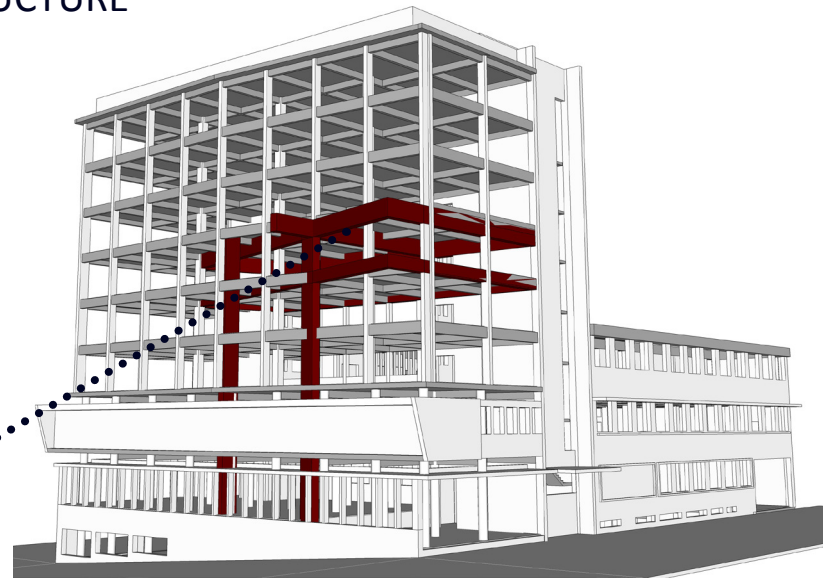
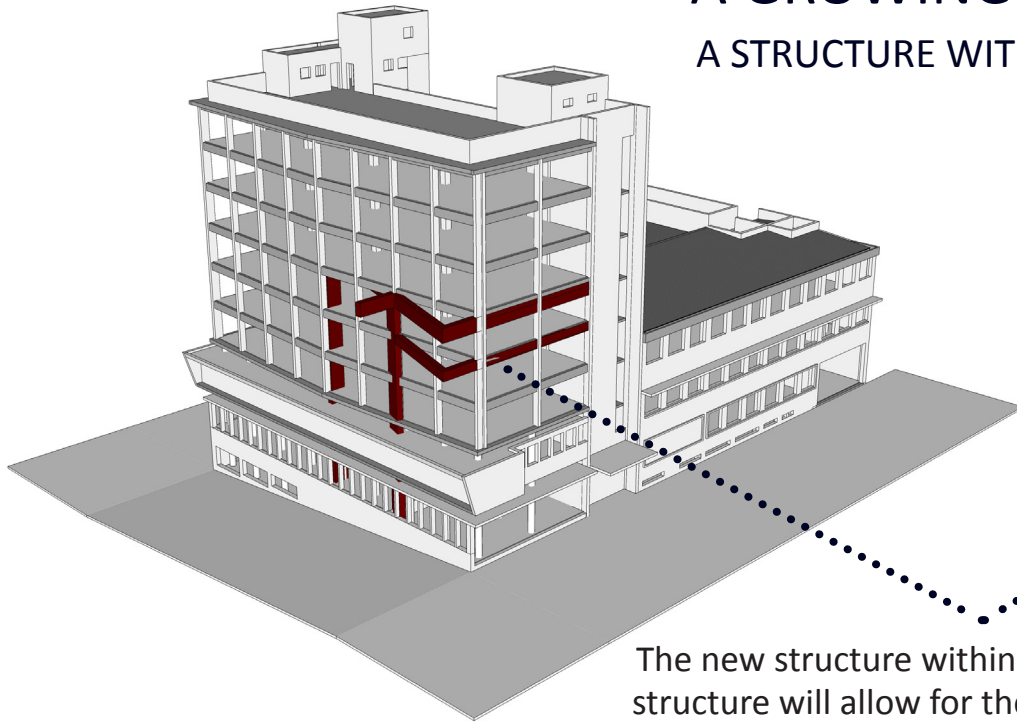
FIGURE 98

Should the new design be adapted in the future, the perforated aluminium could be used for other alternate functions such as chairs, ceilings and tables. If the panels are not used they can be recycled.

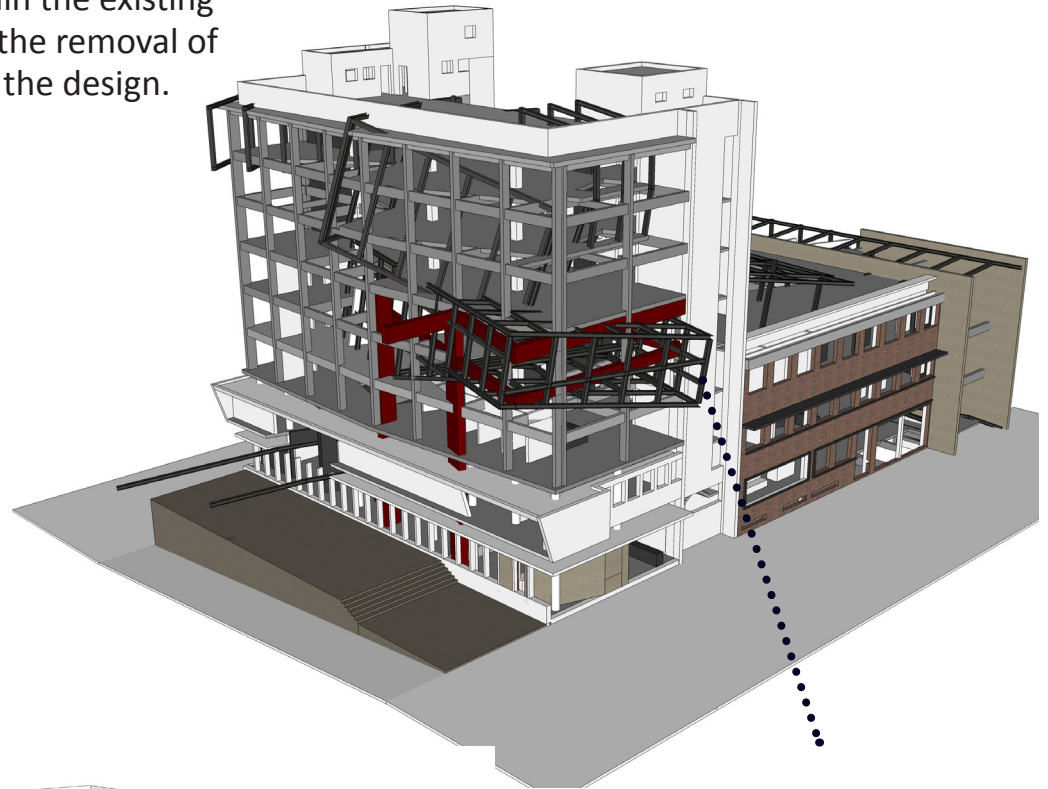
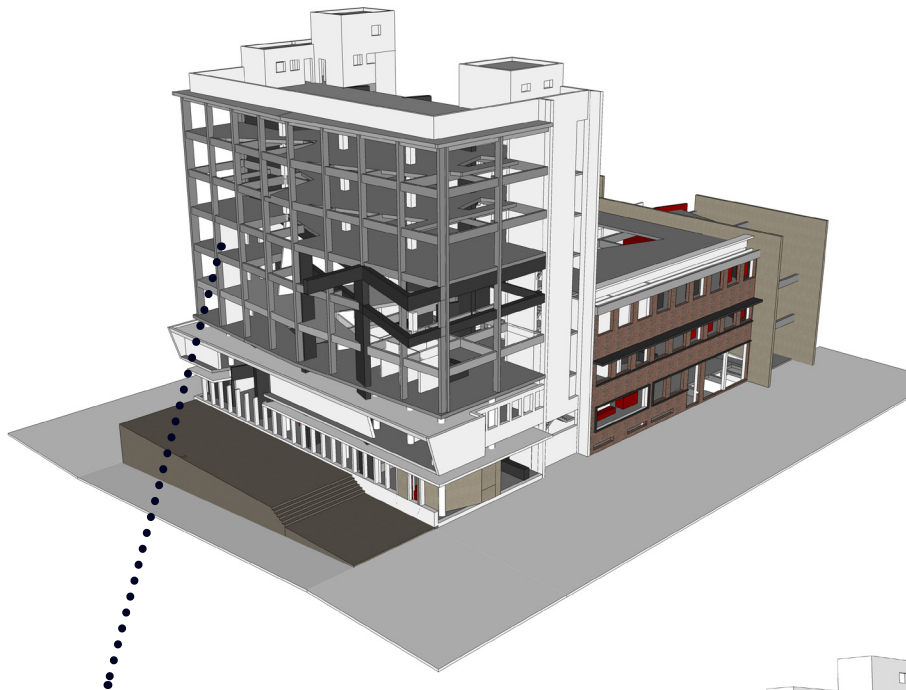


# A GROWING STRUCTURE

## A STRUCTURE WITHIN A STRUCTURE



The new structure within the existing structure will allow for the removal of structure restricting the design.



Craving out the existing concrete panels requires labour, hence creating jobs. The concrete panels are not easy to transport and can instead be used on Smith Service road as a road finish, which will slow the movement of cars within a high pedestrian zone.

The steel structure acts like a parasite, fixing its self to the carved concrete surface.



A substructure will then be constructed allowing for the perforated aluminium panels to be fixed.



8.4

# A TYPICAL DETAIL

## THE CONSTRUCTION

12mm TOUGHENED SAFETY GLAZING TO ALUMINIUM FRAME, ALL BY SPECIALIST.

2mm THICK GALVANISED STEEL FLASHING

254x254mm MILD STEEL H- SECTION PRIMED AND PAINTED PLASCON NU-ROOF BLACK.

ALUMINIUM FLUSH GLAZED STRUCTURAL MULLION BY SPECIALIST. POWDER COATED CHARCOAL ARP3005.

ALUMINIUM HORIZONTAL PIVOT WINDOW BY SPECIALIST. POWDER COATED CHARCOAL ARP3005.

1200X600MM ALUMINIUM PERFORATED PANEL FIXED TO STEEL SUB-FRAME WITH SELF DRILLING HEX HEAD SCREWS WITH FIT FOR PURPOSE INSULATOR TO PREVENT GALVANIC REACTION BETWEEN THE METAL AND ALUMINIUM.

100x50mm MILD STEEL PARALLEL FLANGE CHANNEL SUB-FRAME. PRIMED AND PAINTED PLASCON NU-ROOF BLACK.

254x254mm MILD STEEL H-SECTION PRIMED AND PAINTED PLASCON NU-ROOF BLACK.

16mm THREADED ROD LUGS CHEMICALLY ANCHORED TO CONCRETE. TO BE WELDED AND GRINDED FLUSH WITH FLANGE OF STEEL COLUMN AS PER ENGINEERS SPEC.

9.5mm RHINOBOARD FLUSH PLASTERED SUSPENDED CEILING SYSTEM, SCREWED TO THE UNDERSIDE OF THE CEILING GRID WITH DRYWALL SCREWS

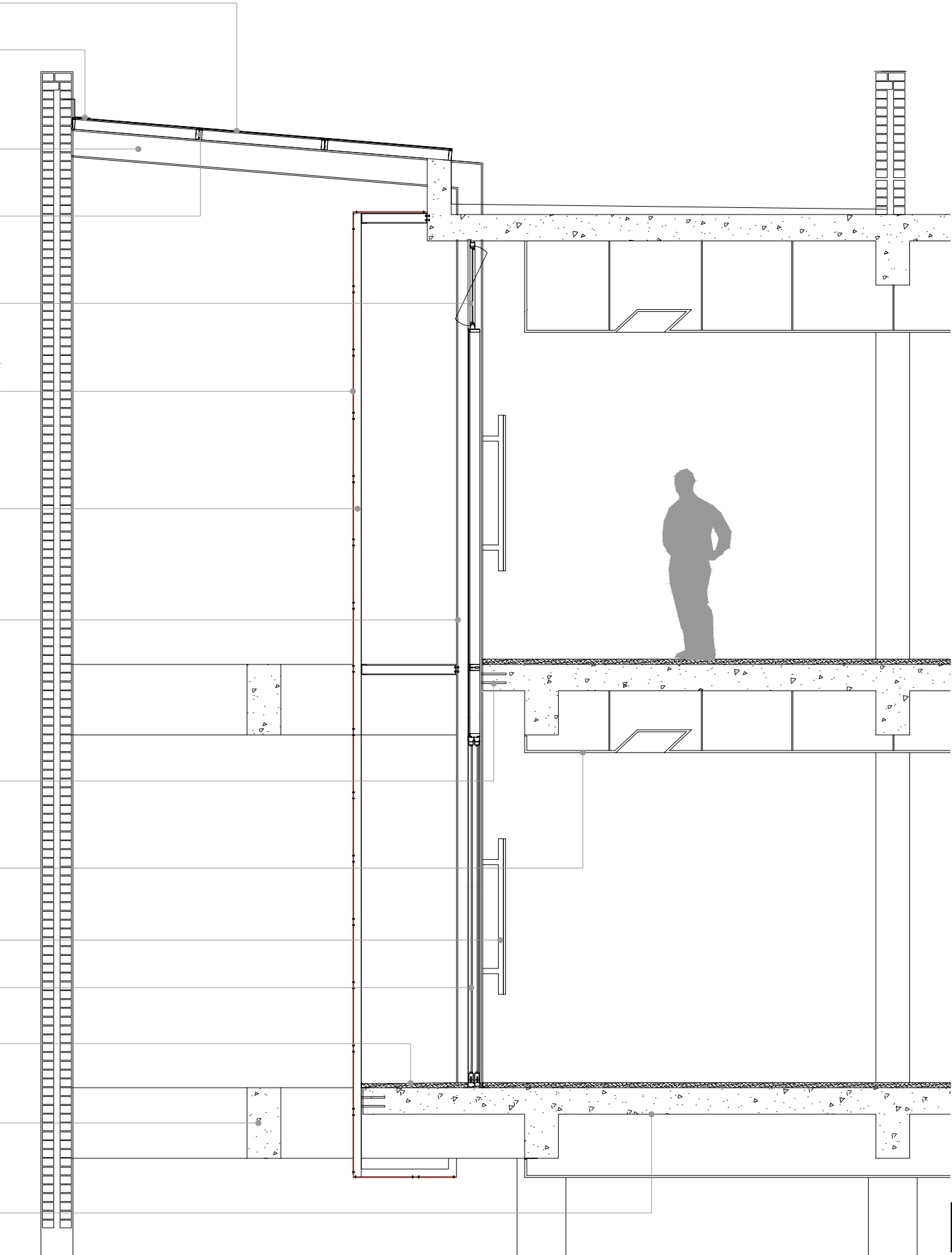
REUSE STEEL TO CREATE FRAMES FOR DISPLAY WALLS AS PER DETAIL.

ALUMINIUM REGAL SECTION SLIDING WINDOW BY SPECIALIST. POWDER COATED CHARCOAL ARP3005.

MIN 40mm SAND CEMENT STEEL TROWELLED SCREED AT FALL 1:120 MIN TOWARDS OUTSIDE EDGE.

EXISTING REINFORCED CONCRETE BEAM

EXISTING REINFORCED CONCRETE FLOOR SLAB



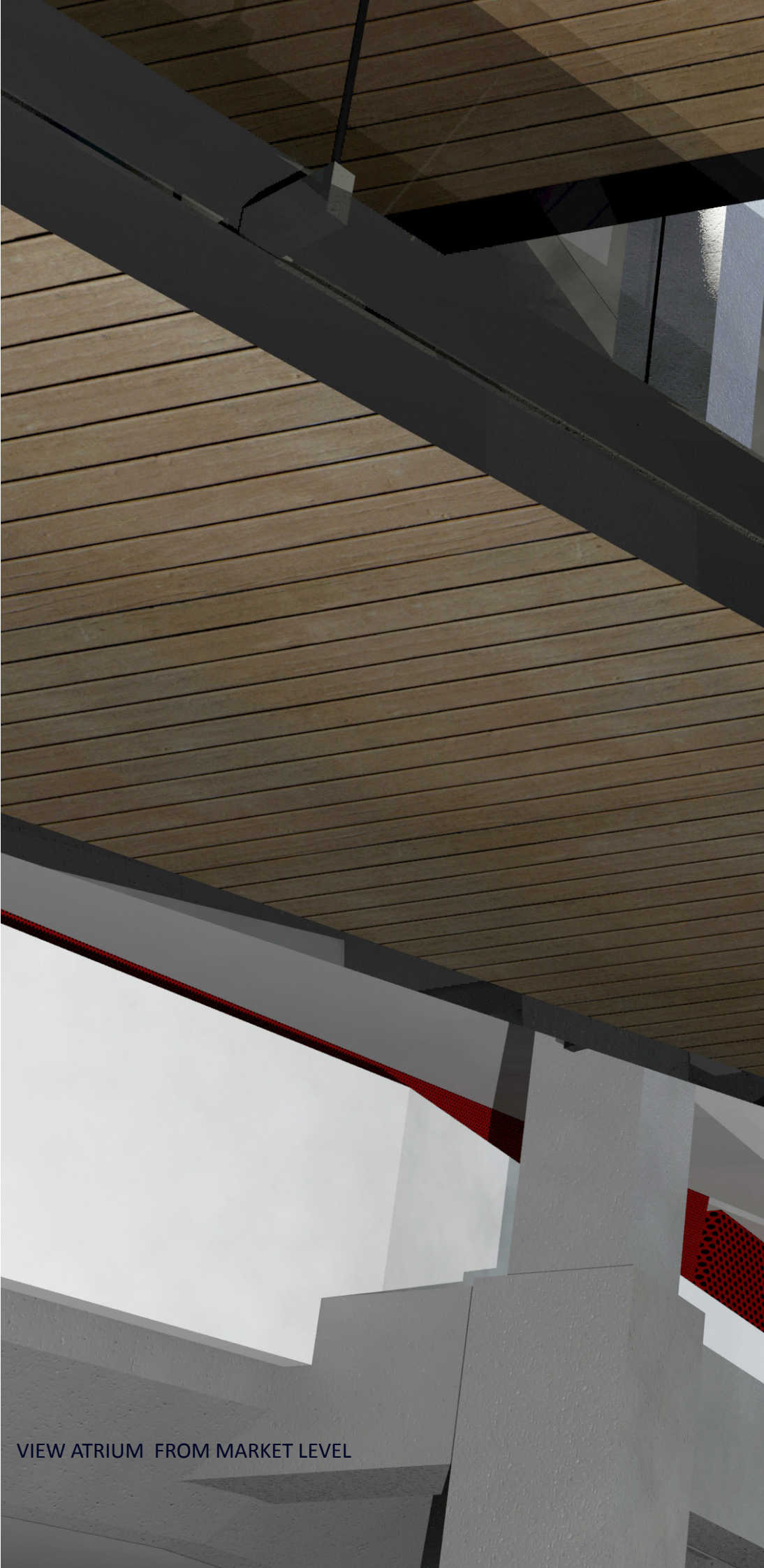


# DESIGN

9.0

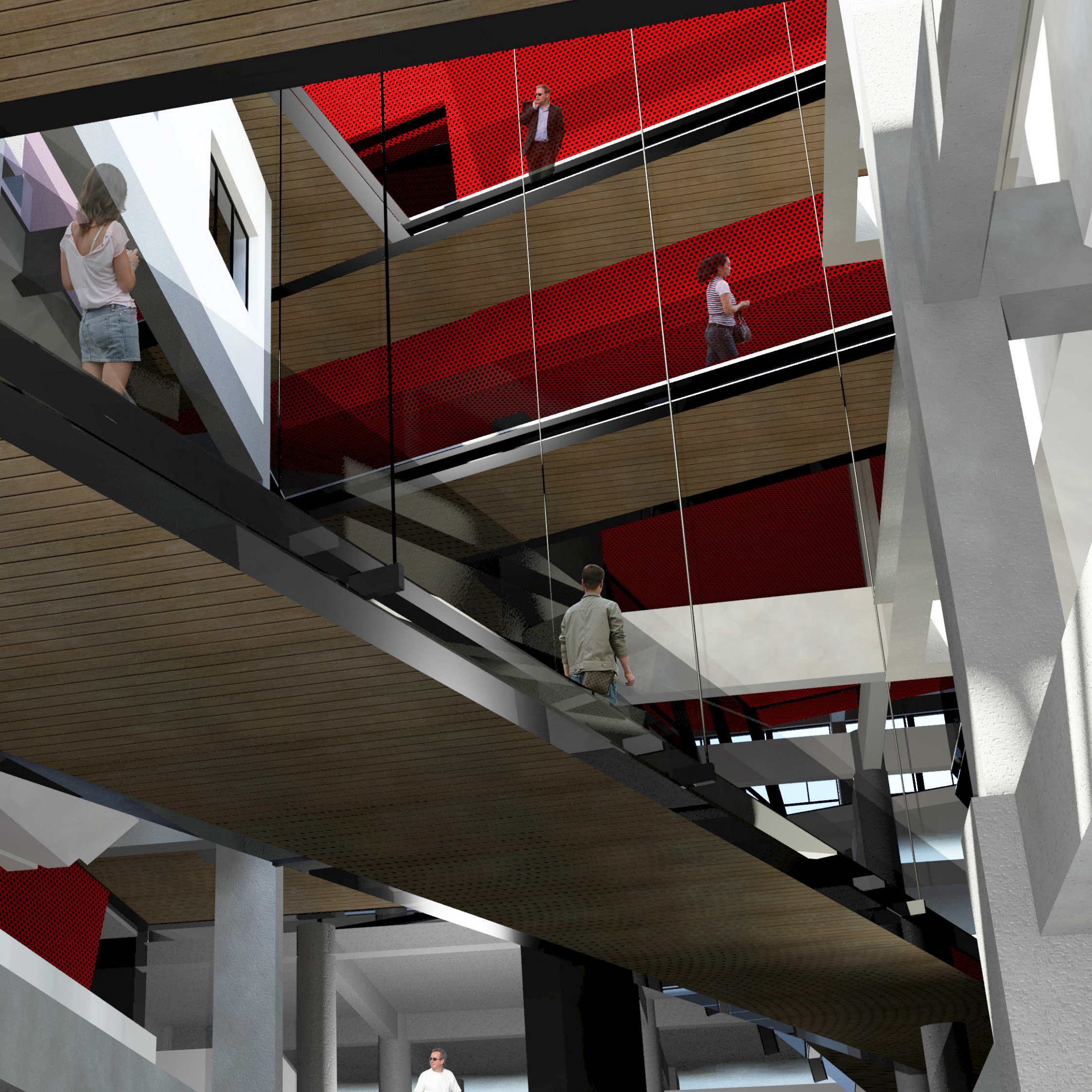
FINAL DRAWINGS

>> 188 - 207

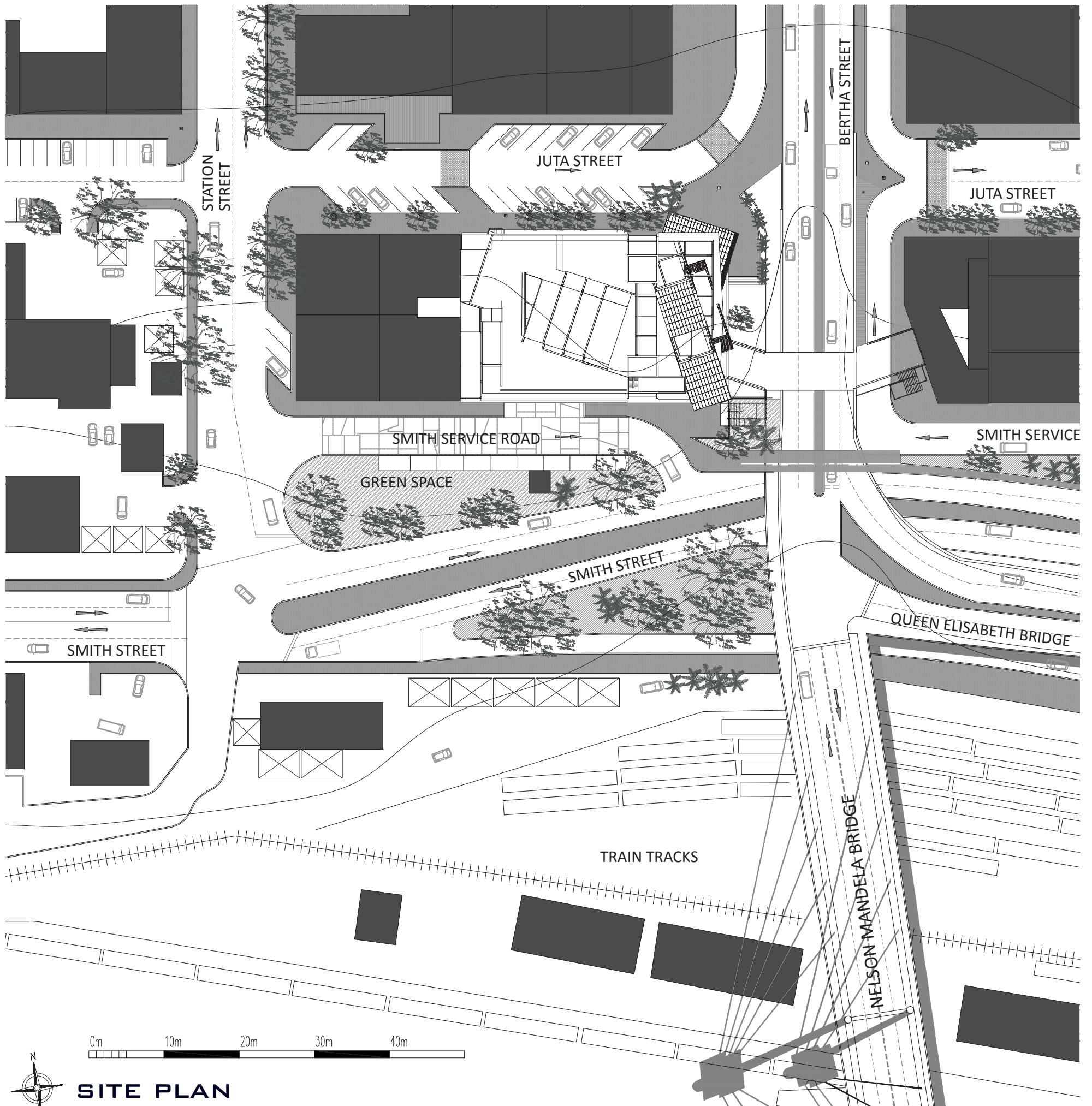


VIEW ATRIUM FROM MARKET LEVEL





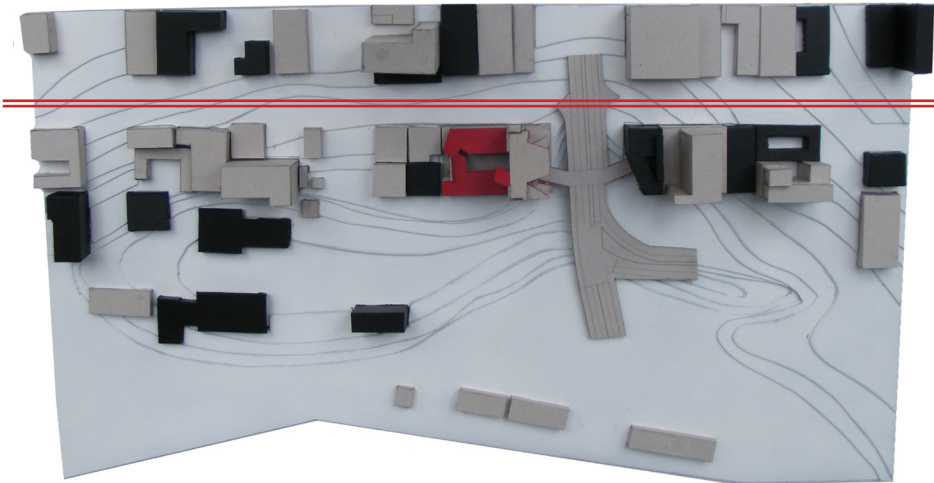






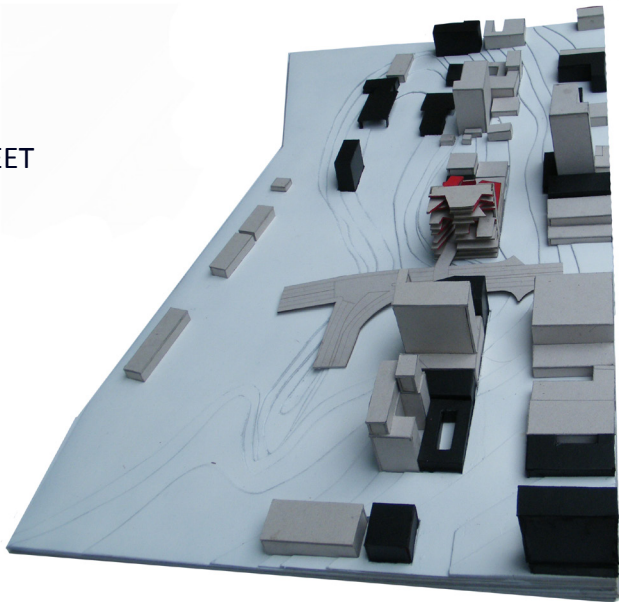


NORTH EAST PERSPECTIVE - THE NIGHT BOX

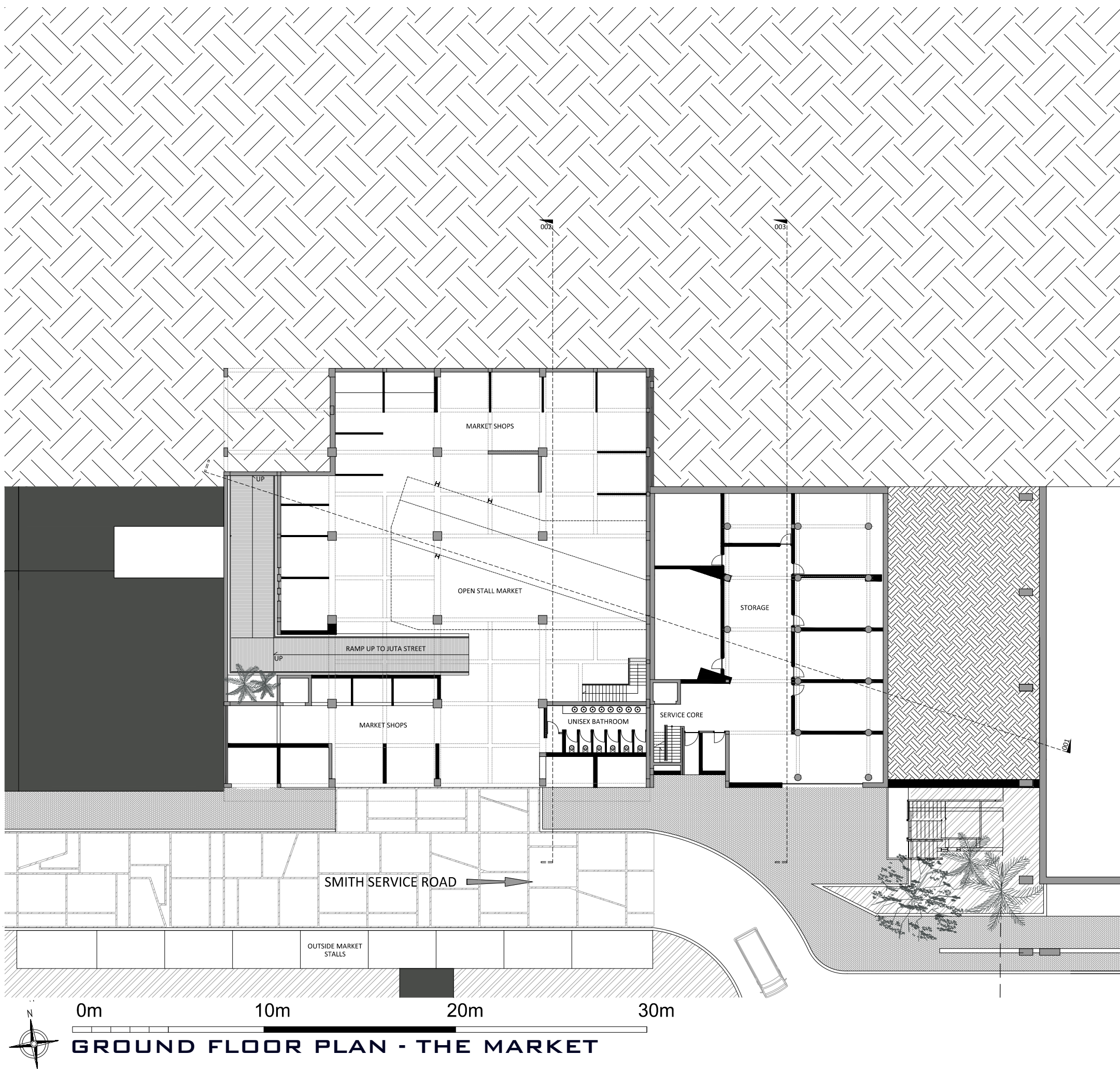


JUTA STREET CONTEXT MODEL

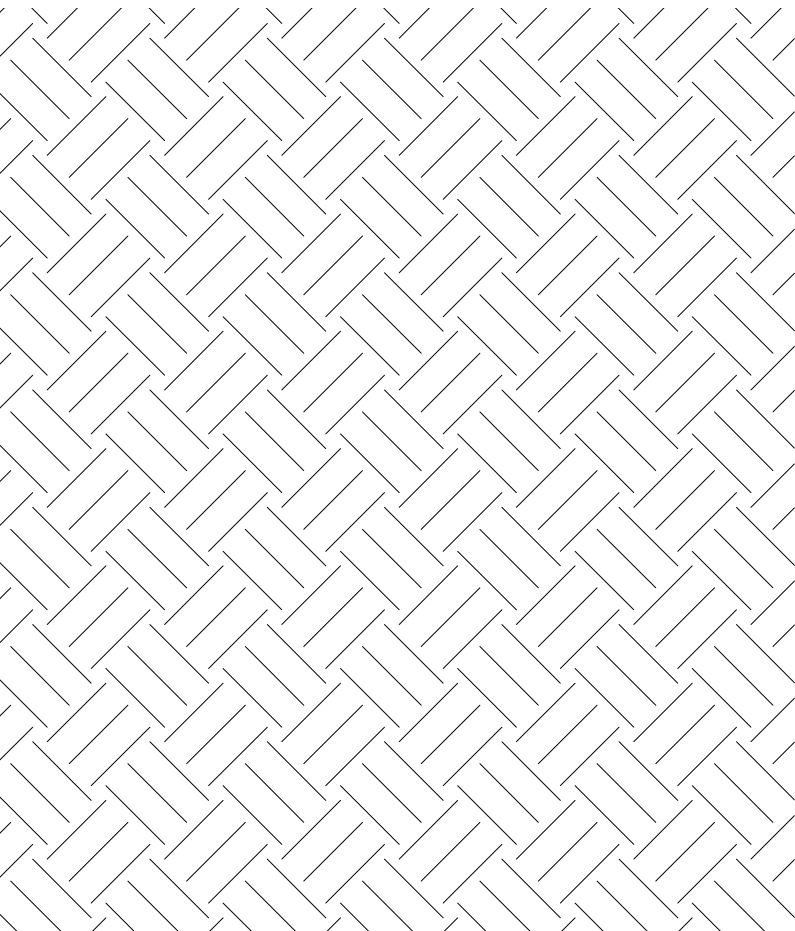
JUTA STREET



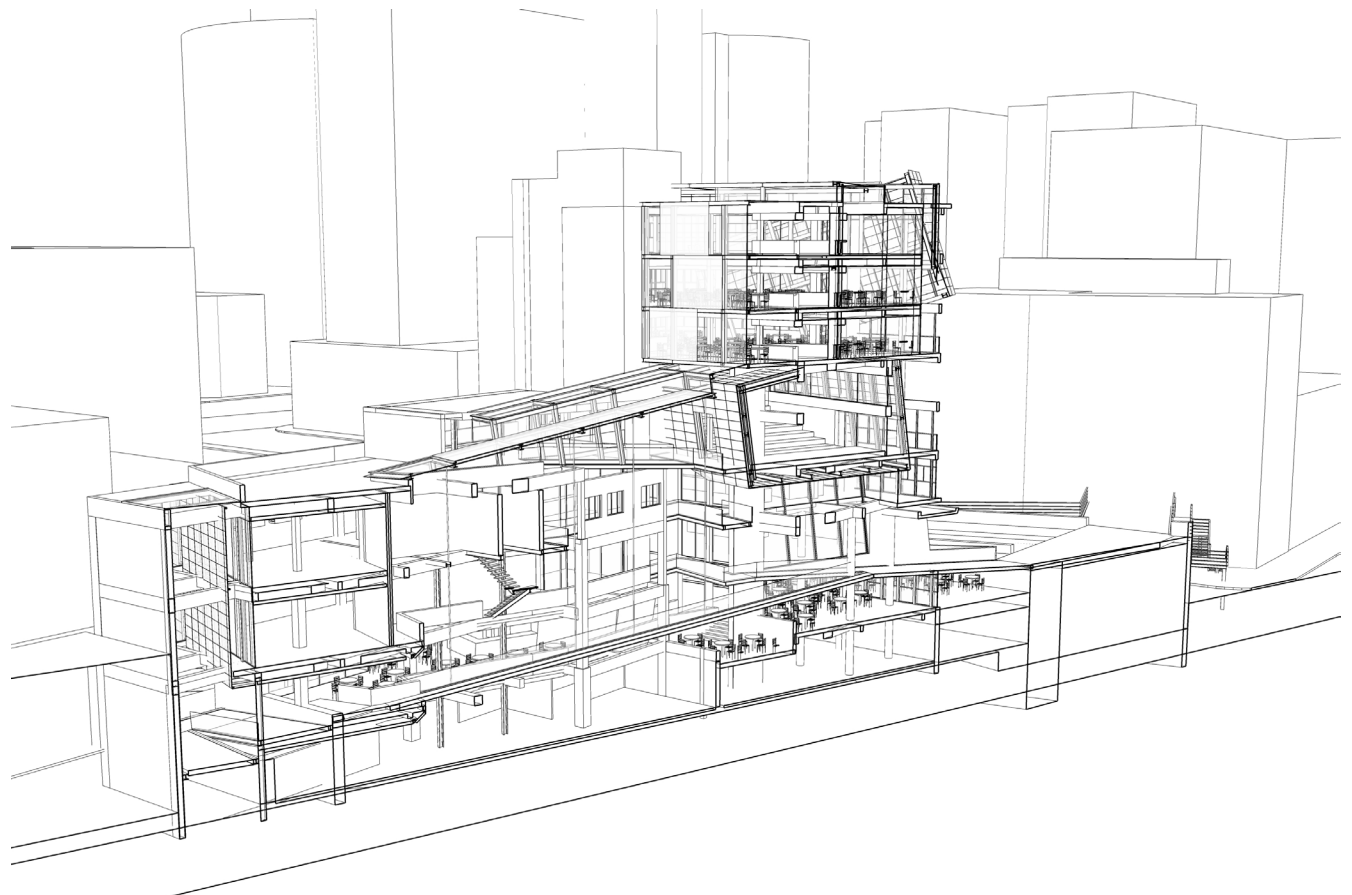
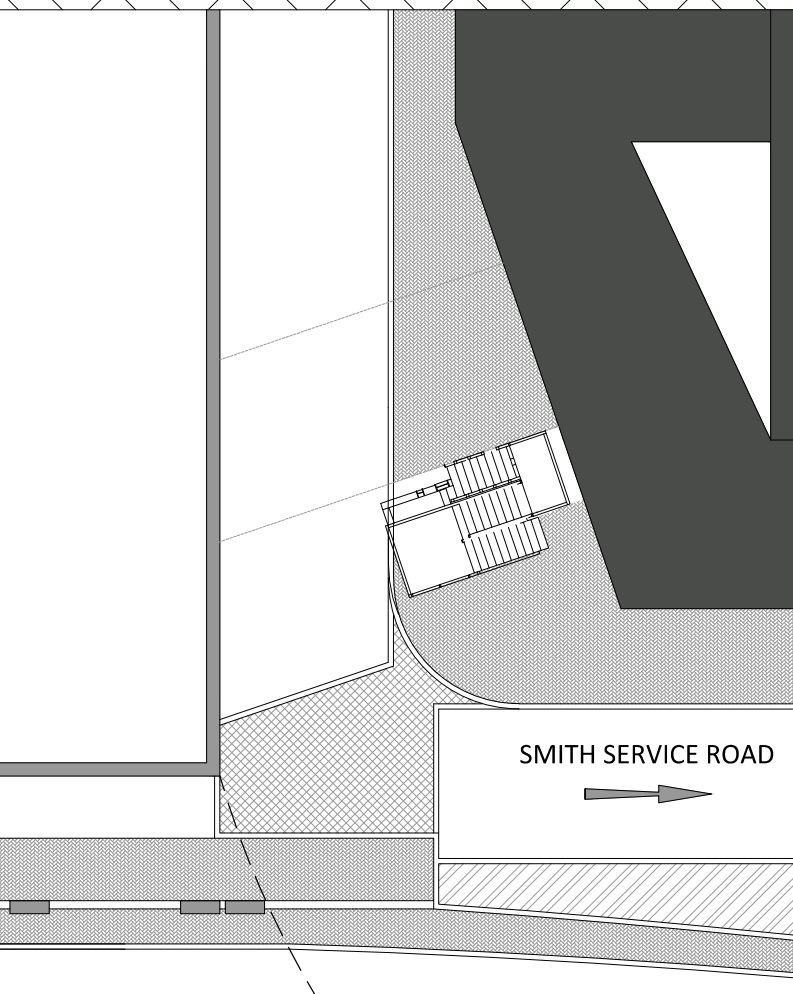






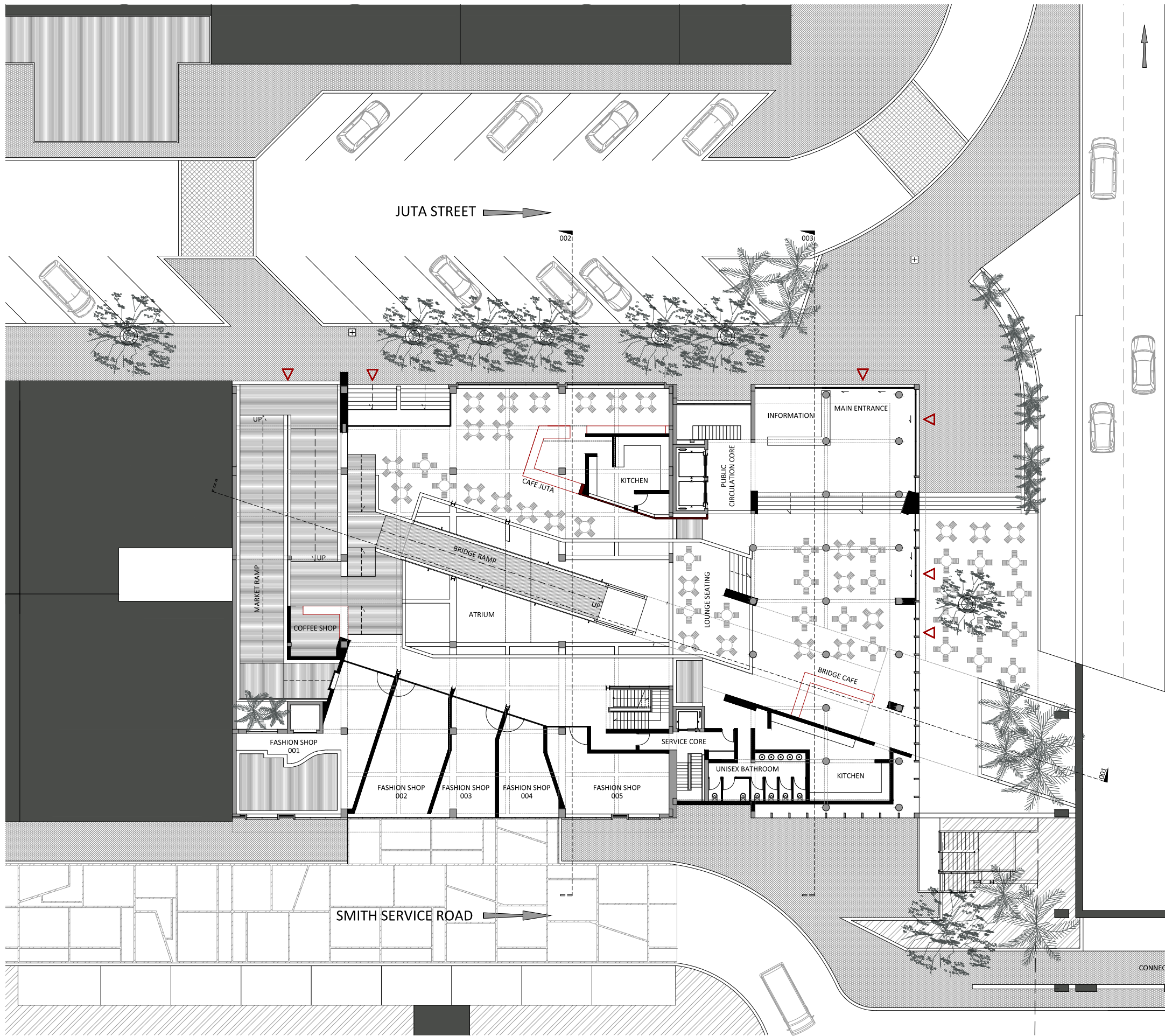


VIEW - SMITH SERVICE ROAD MARKET



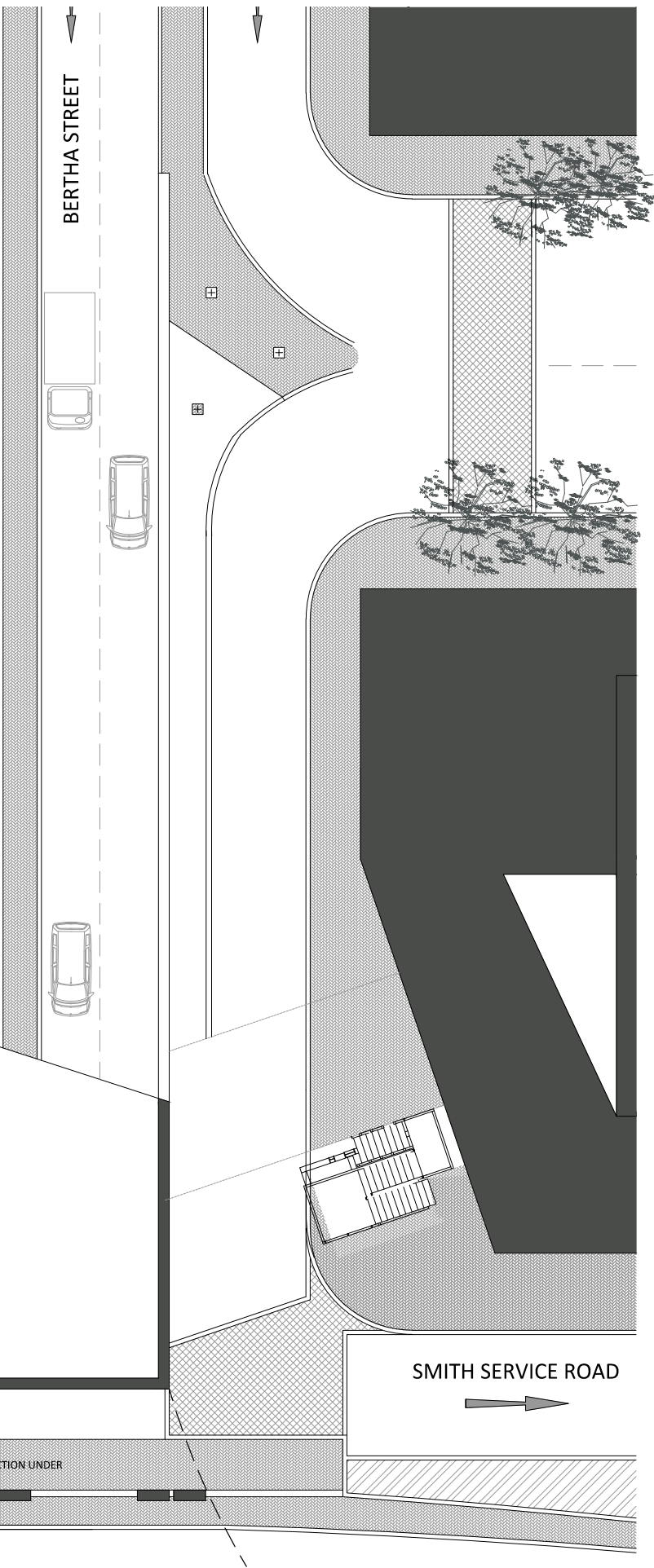
3D SECTION - CUTTING ATRIUM RAMP





FIRST FLOOR PLAN - FASHION & FOOD CAFE



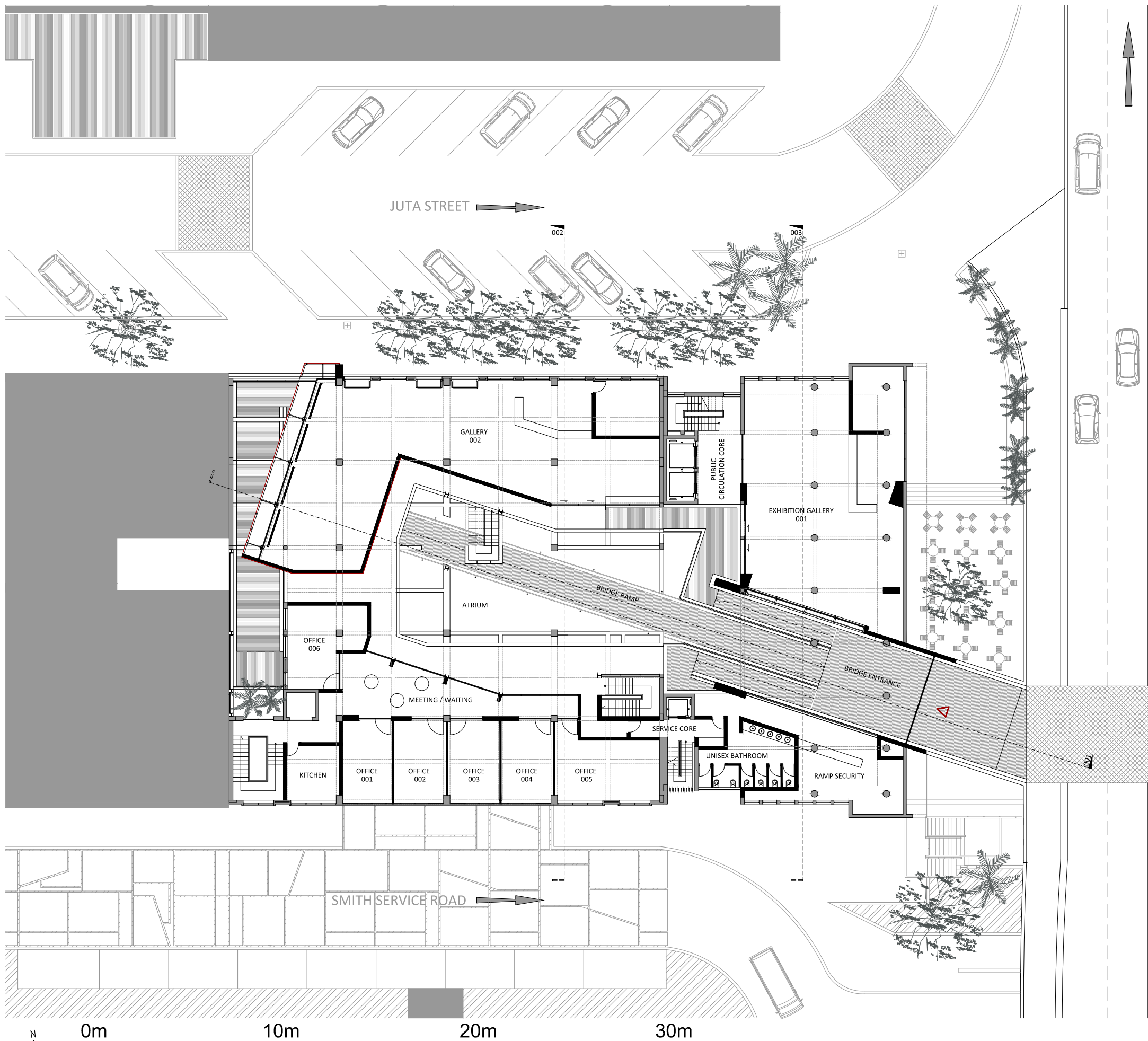


VIEW - JUTA STREET ENTRANCE



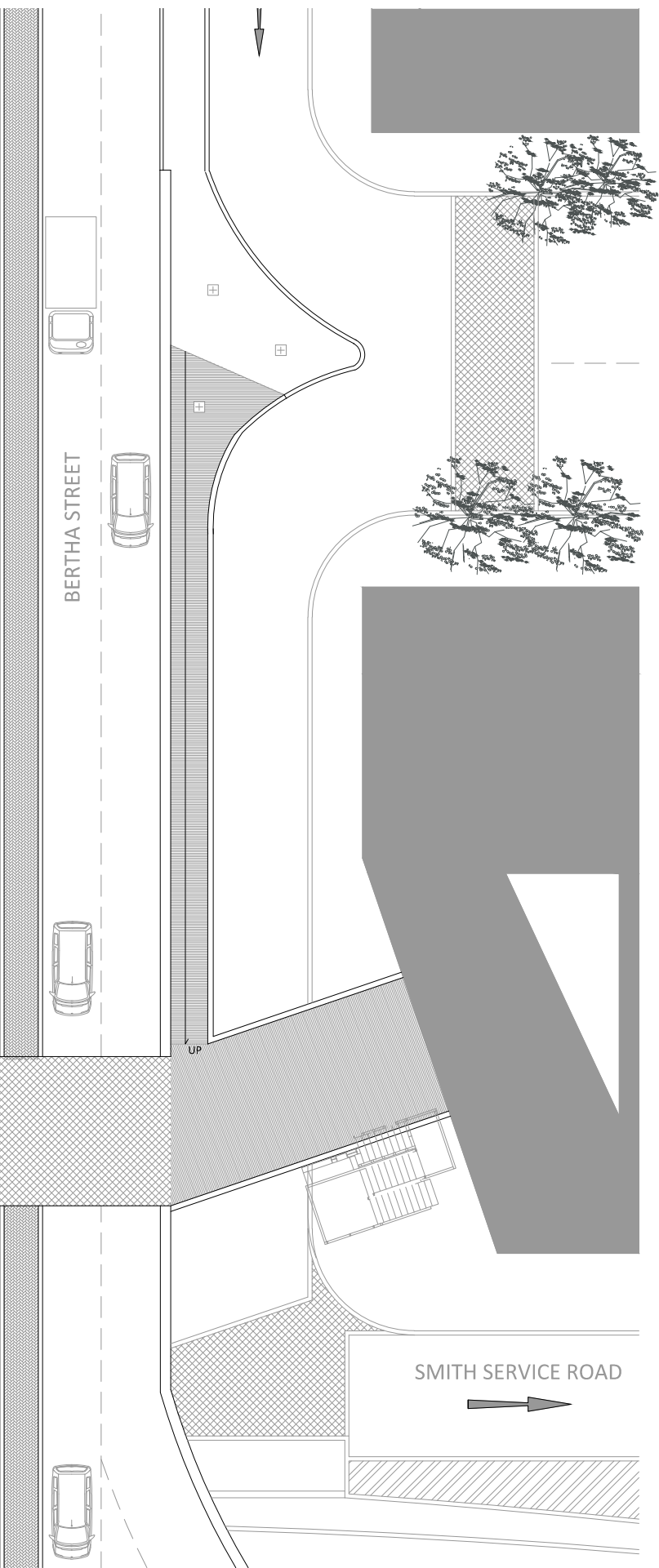
3D PLAN - FIRST FLOOR



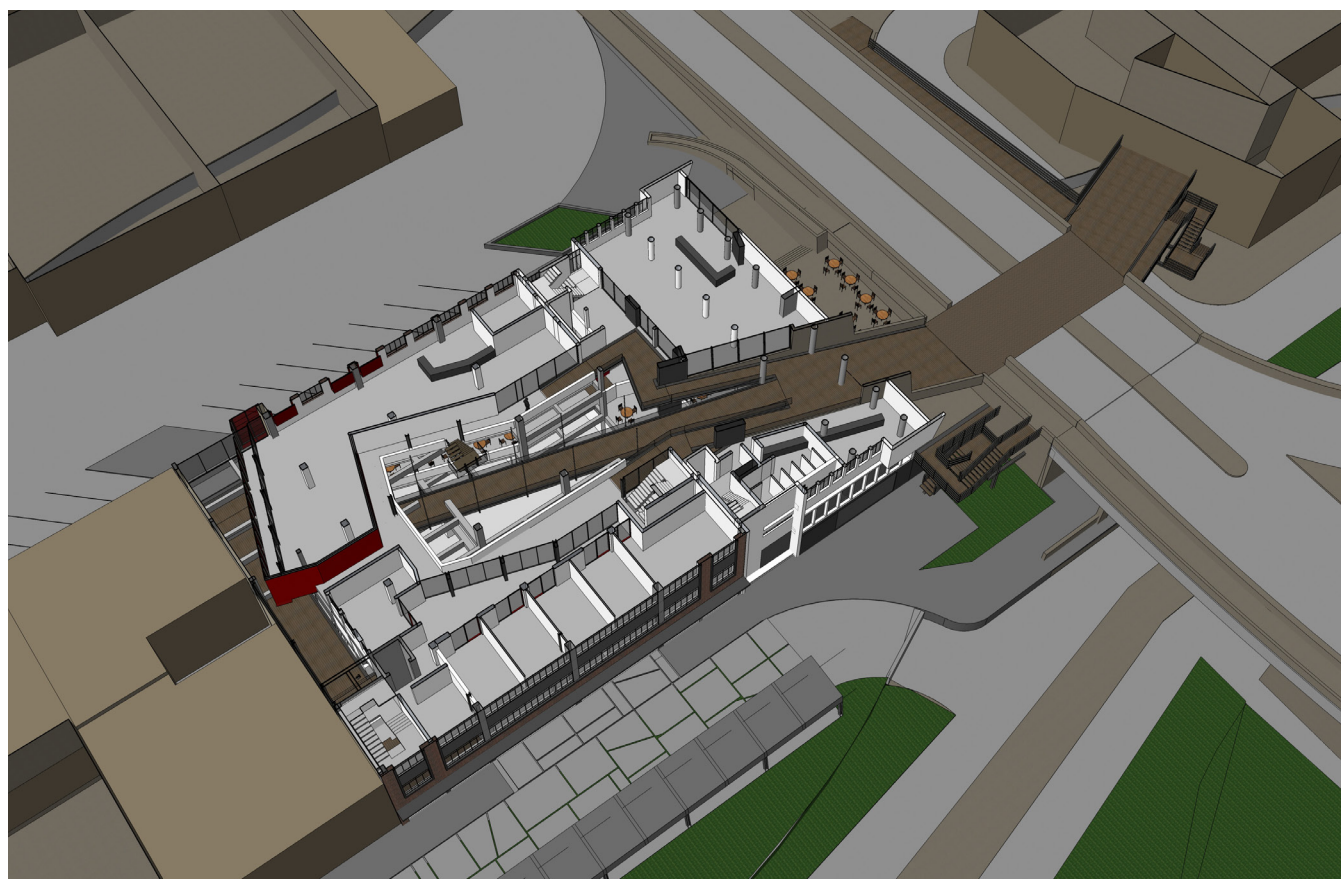


SECOND FLOOR PLAN - GALLERY SPACE & OFFICE SPACE



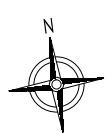
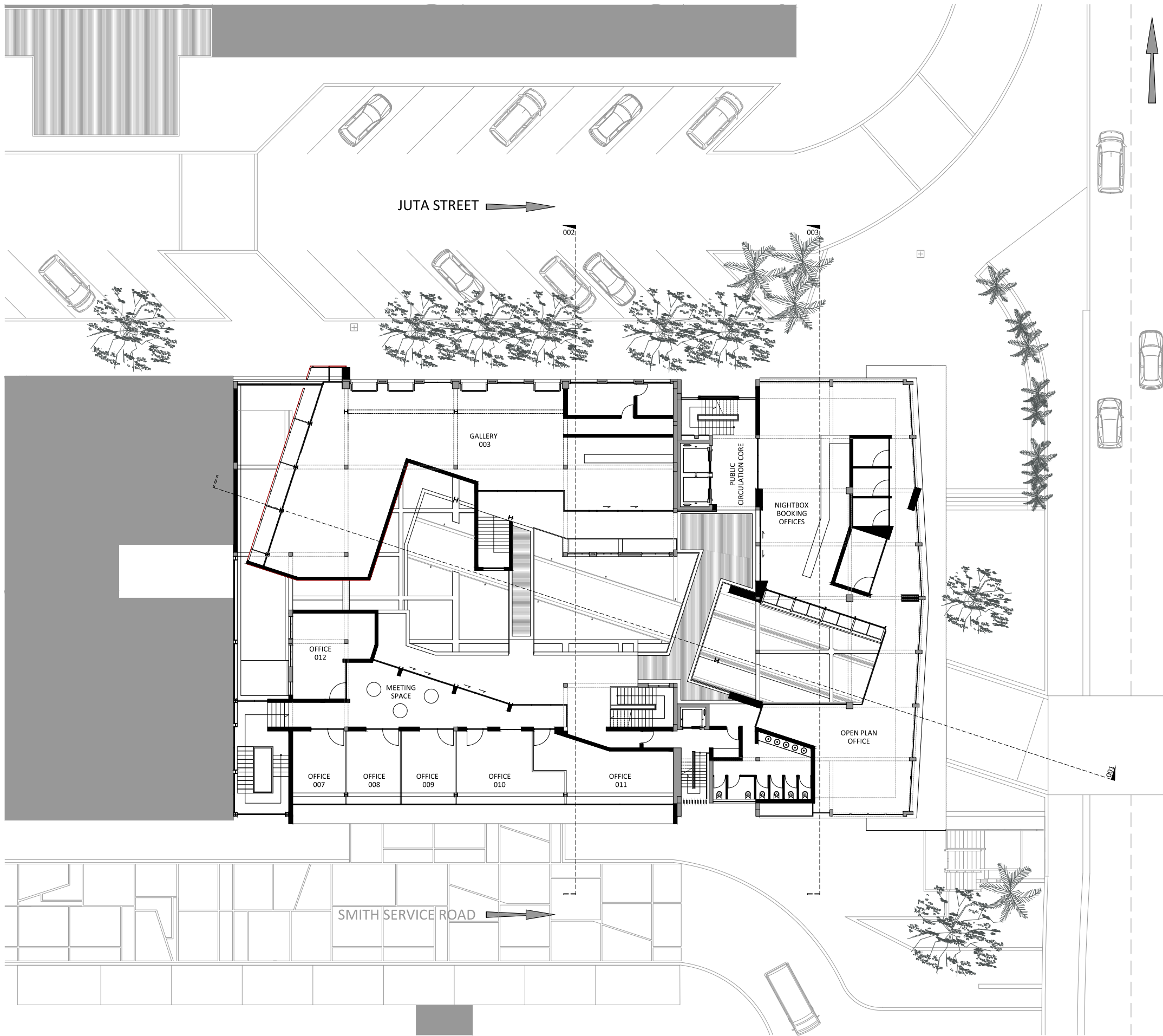


VIEW - RAMP DOWN TO JUTA STREET



3D PLAN - SECOND FLOOR

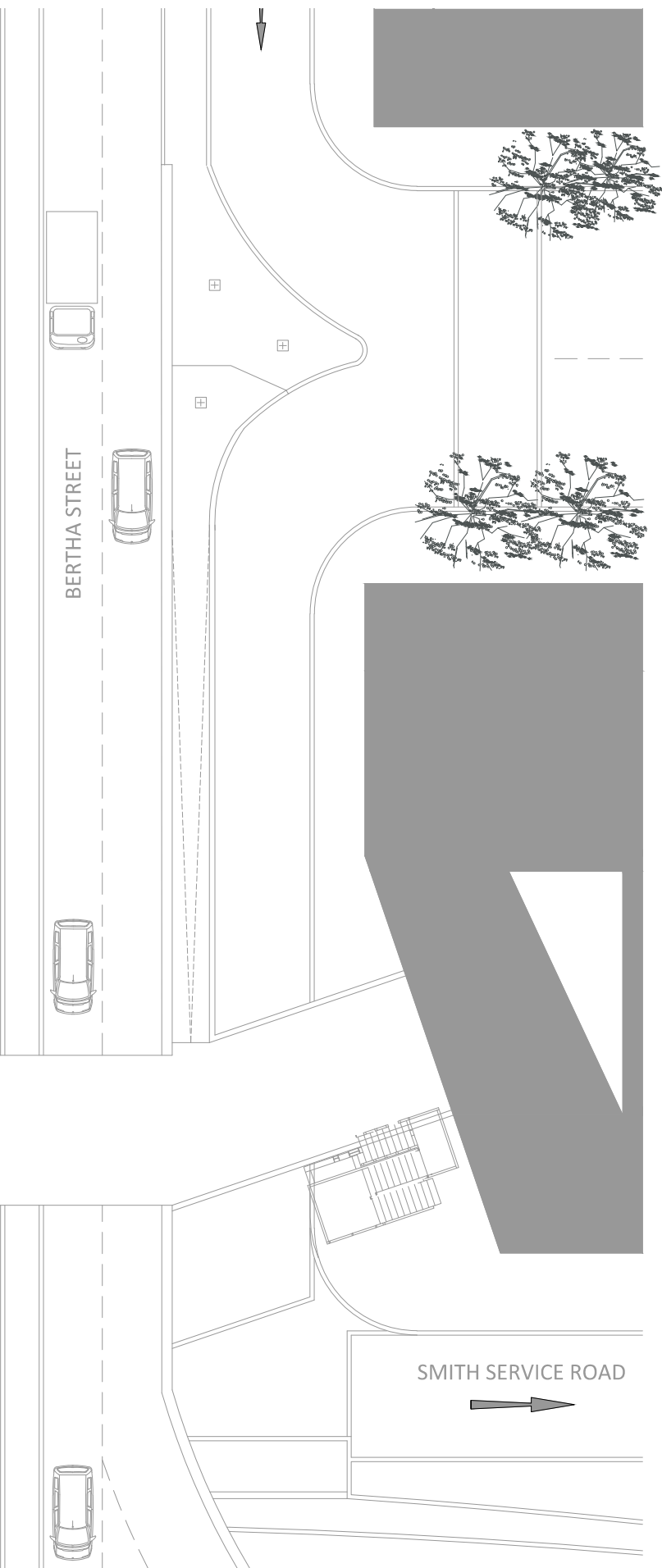




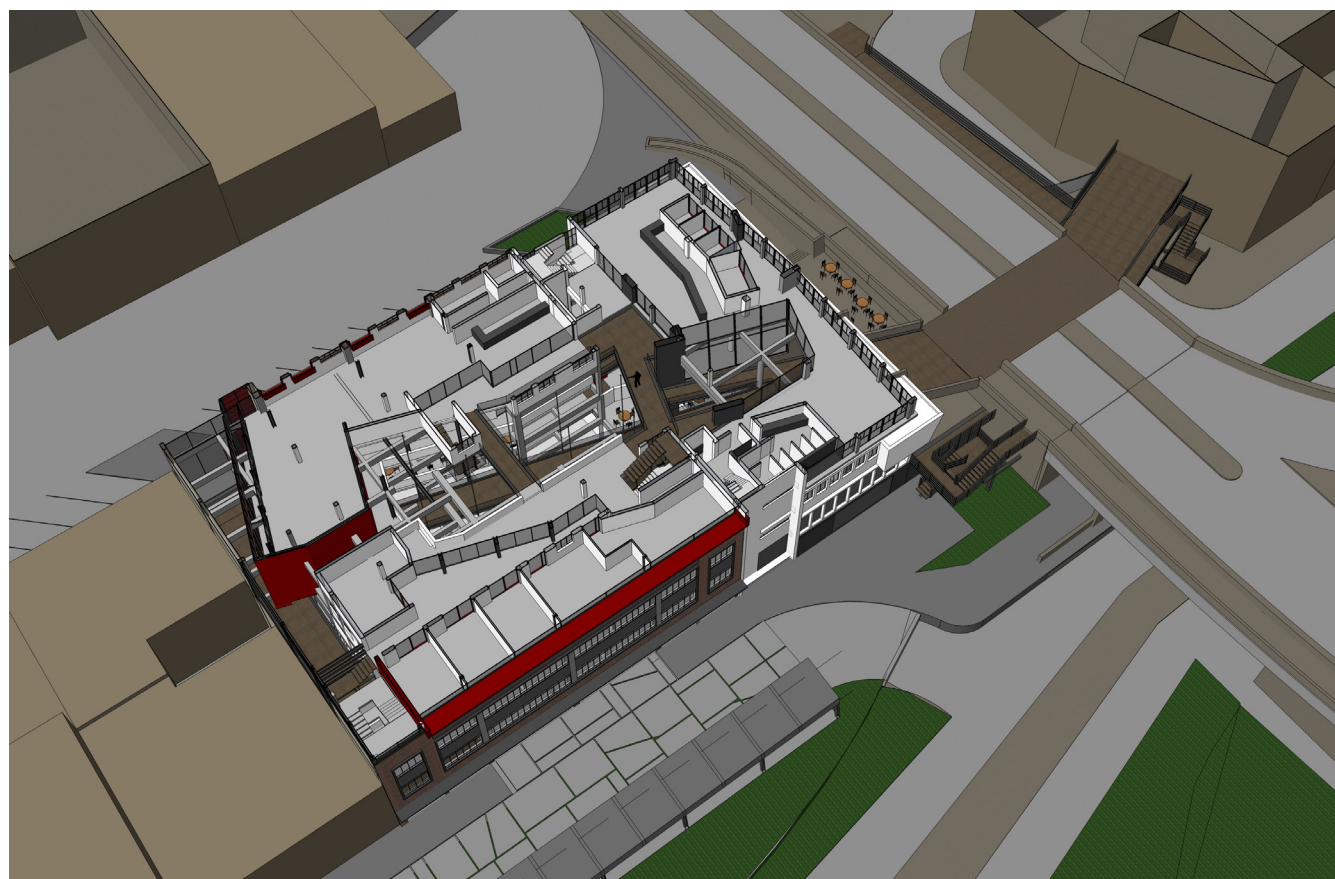
0m 10m 20m 30m

# THIRD FLOOR PLAN - GALLERY, OFFICE & EVENTS BOOKING



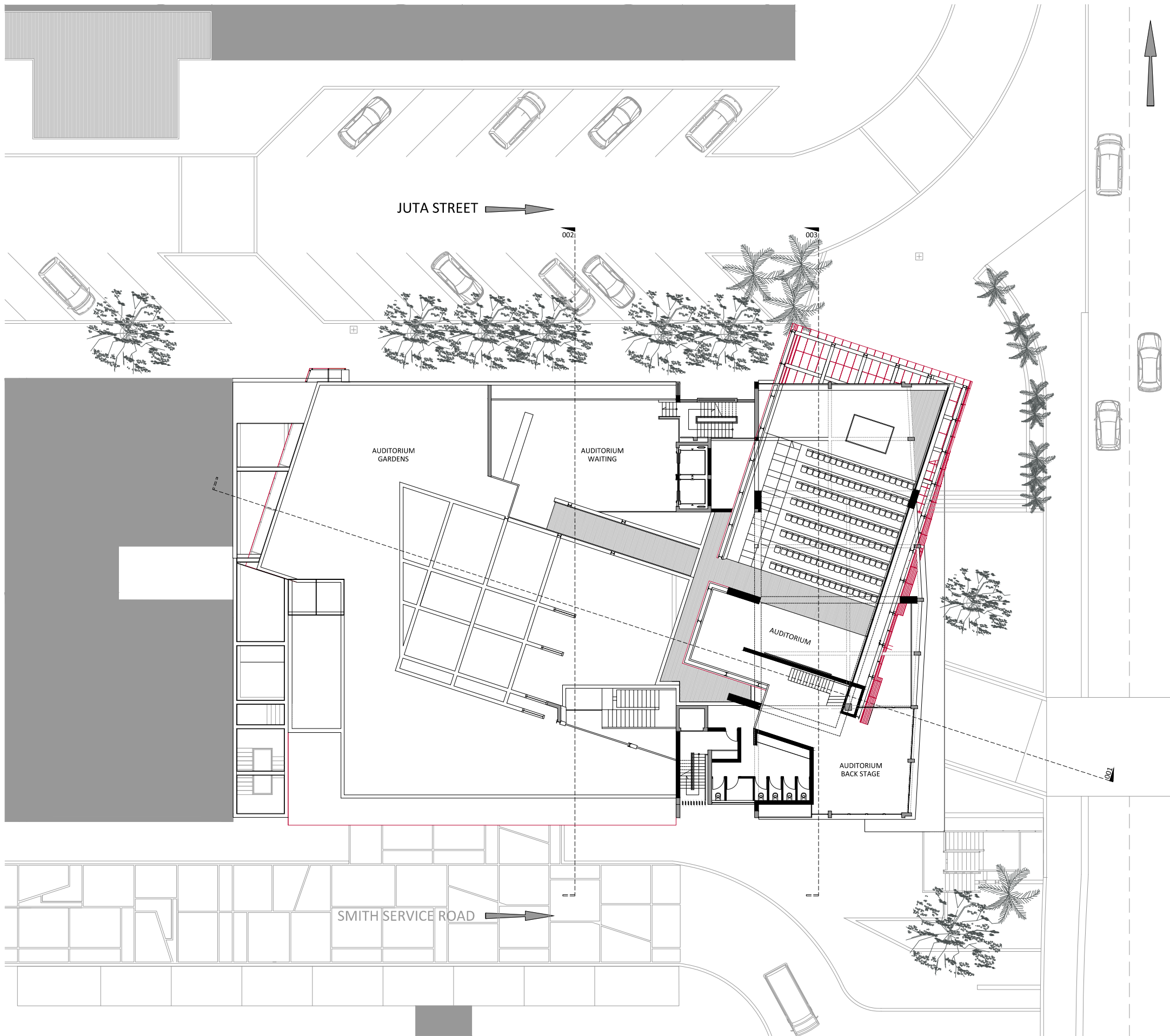


VIEW - THIRD FLOOR ATRIUM TOWARDS AUDITORIUM



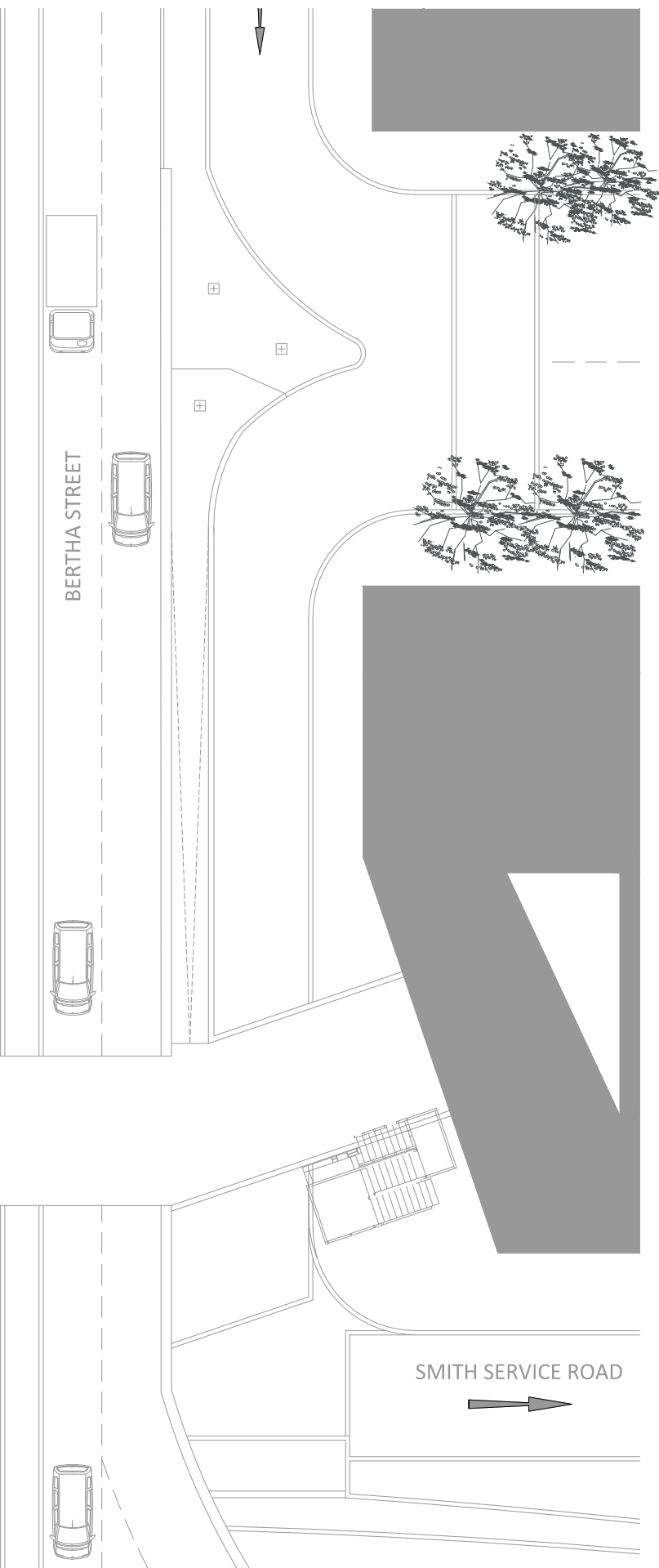
3D PLAN - THIRD FLOOR



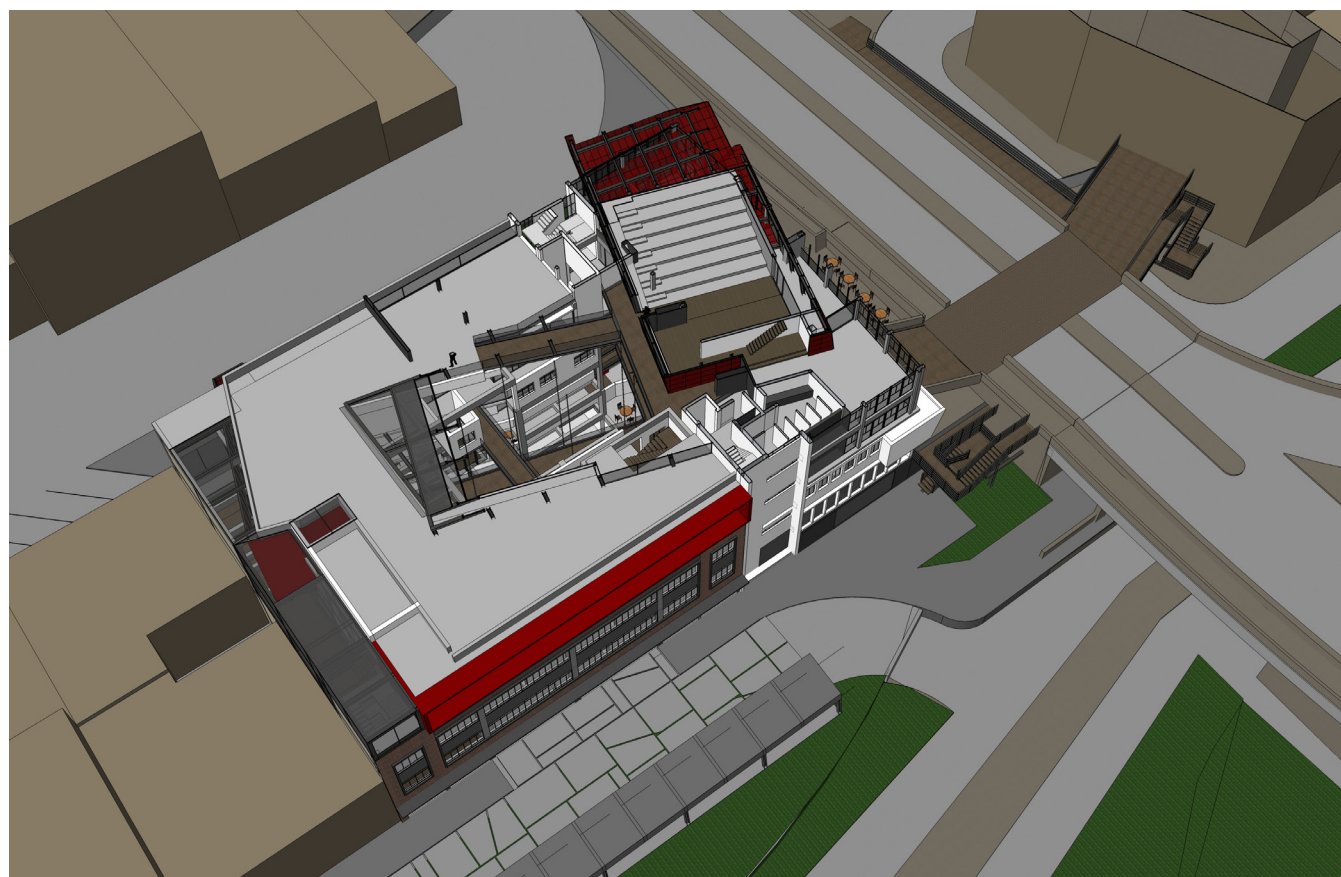


FOURTH & FIFTH FLOOR PLAN - AUDITORIUM & WAITING



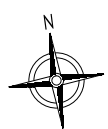
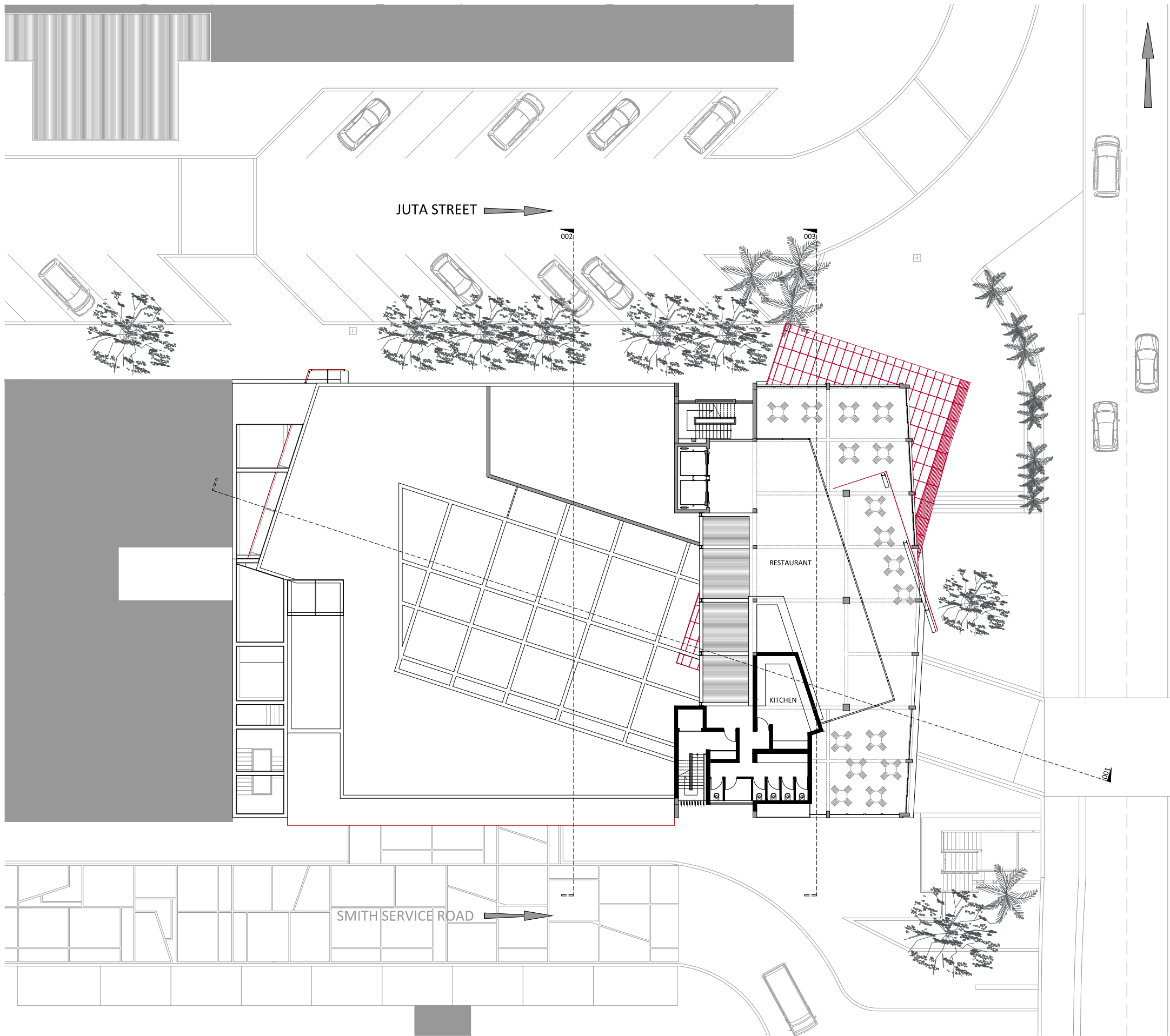


VIEW - NIGHTBOX FROM THE QUEEN ELISEBETH BRIDGE



3D PLAN - FOURTH FLOOR





0m

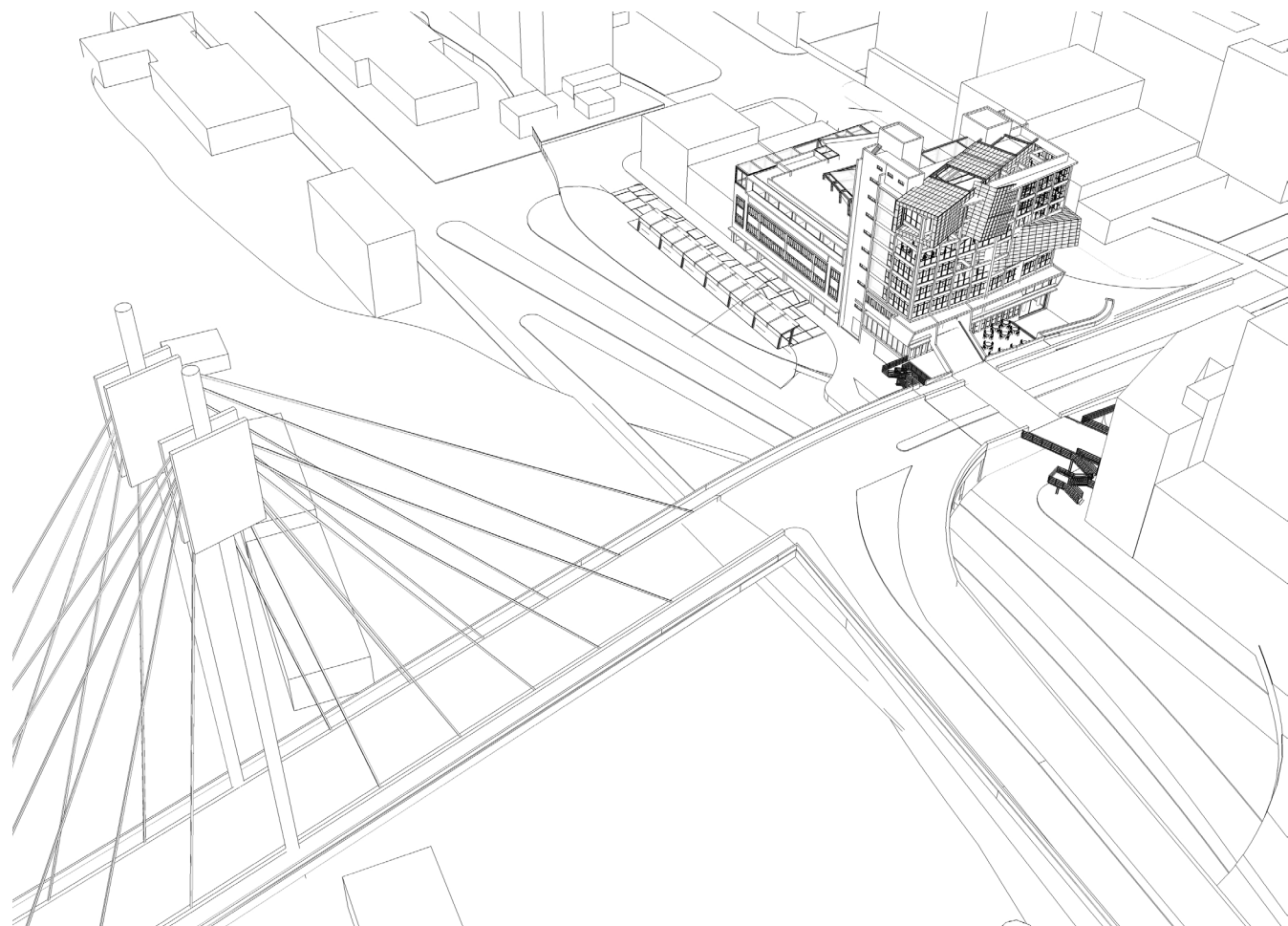
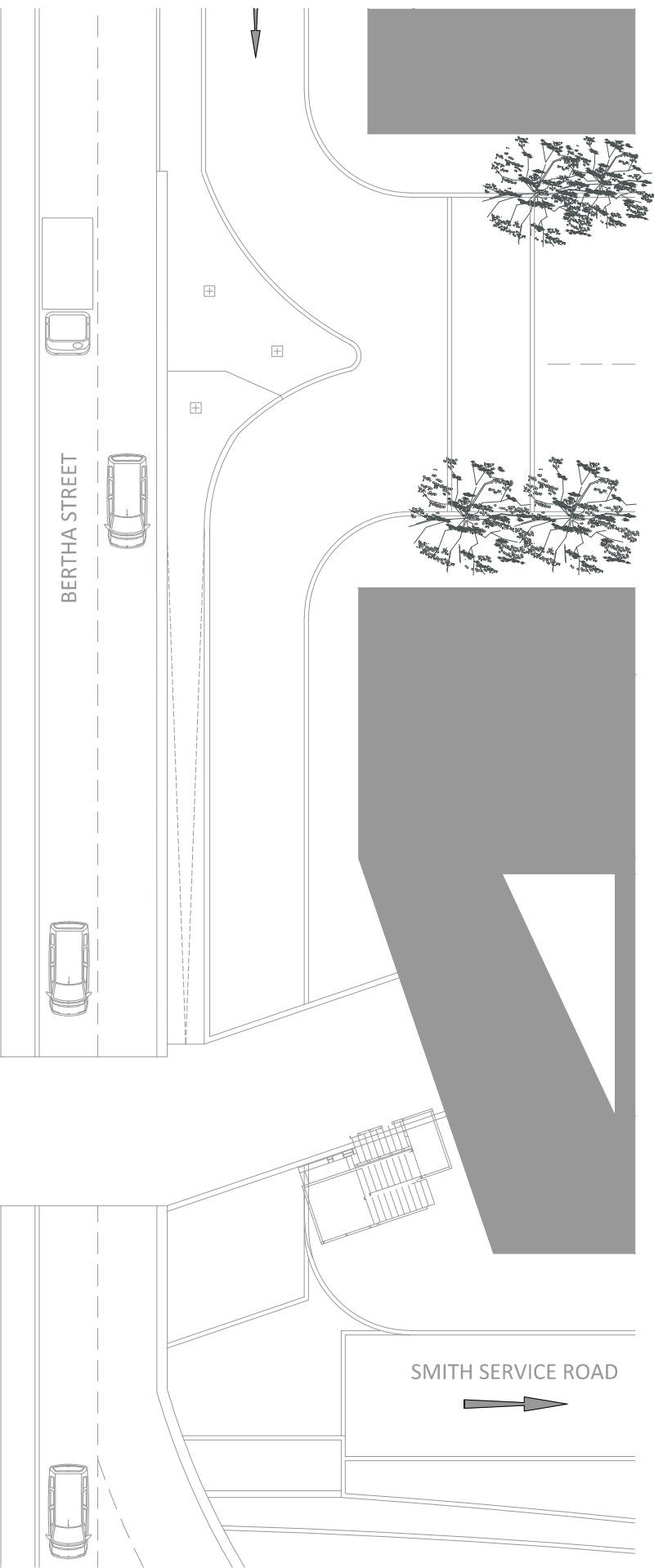
10m

20m

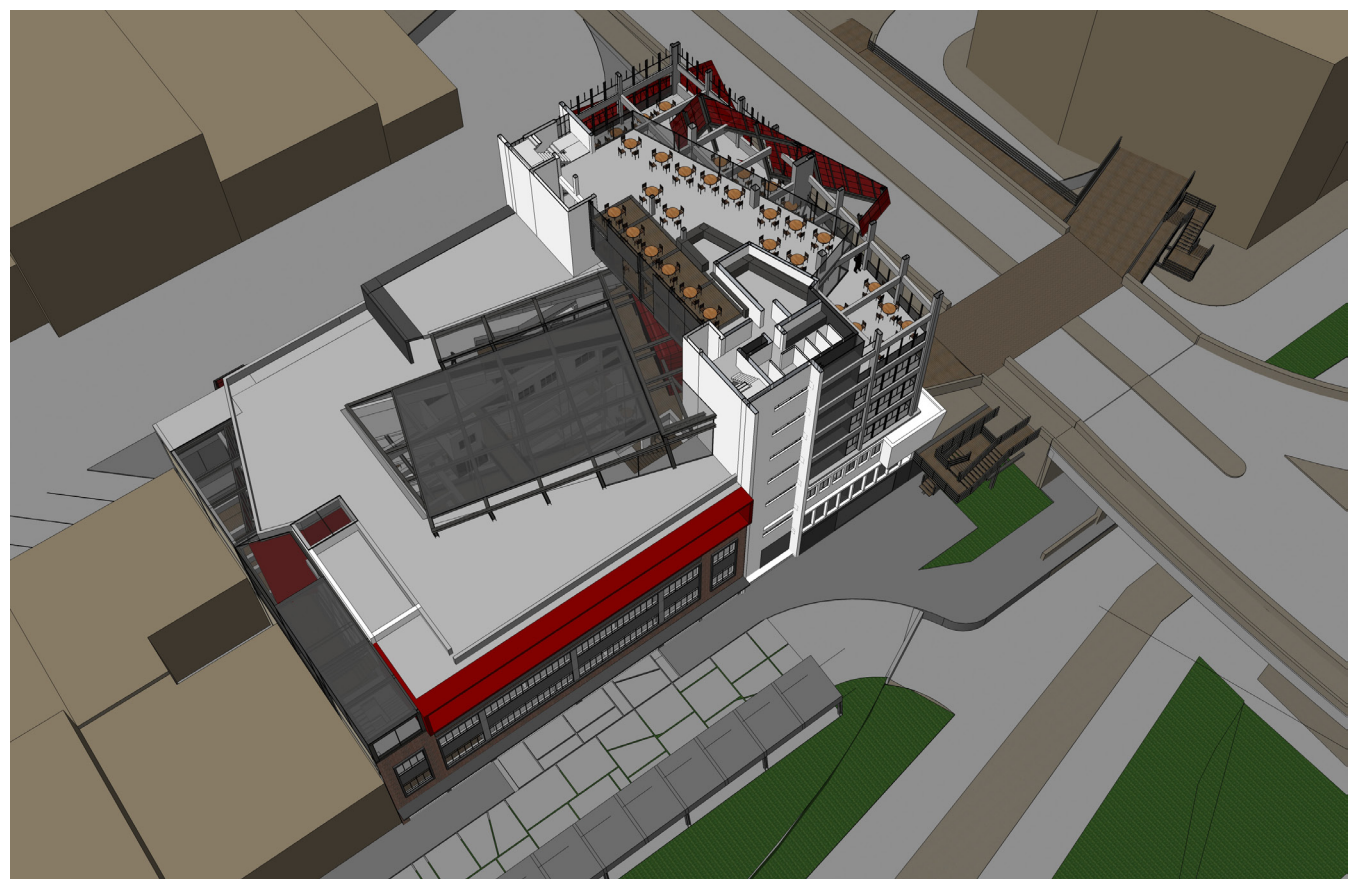
30m

# SIXTH & SEVENTH FLOOR PLAN - BRIDGE RESTAURANT



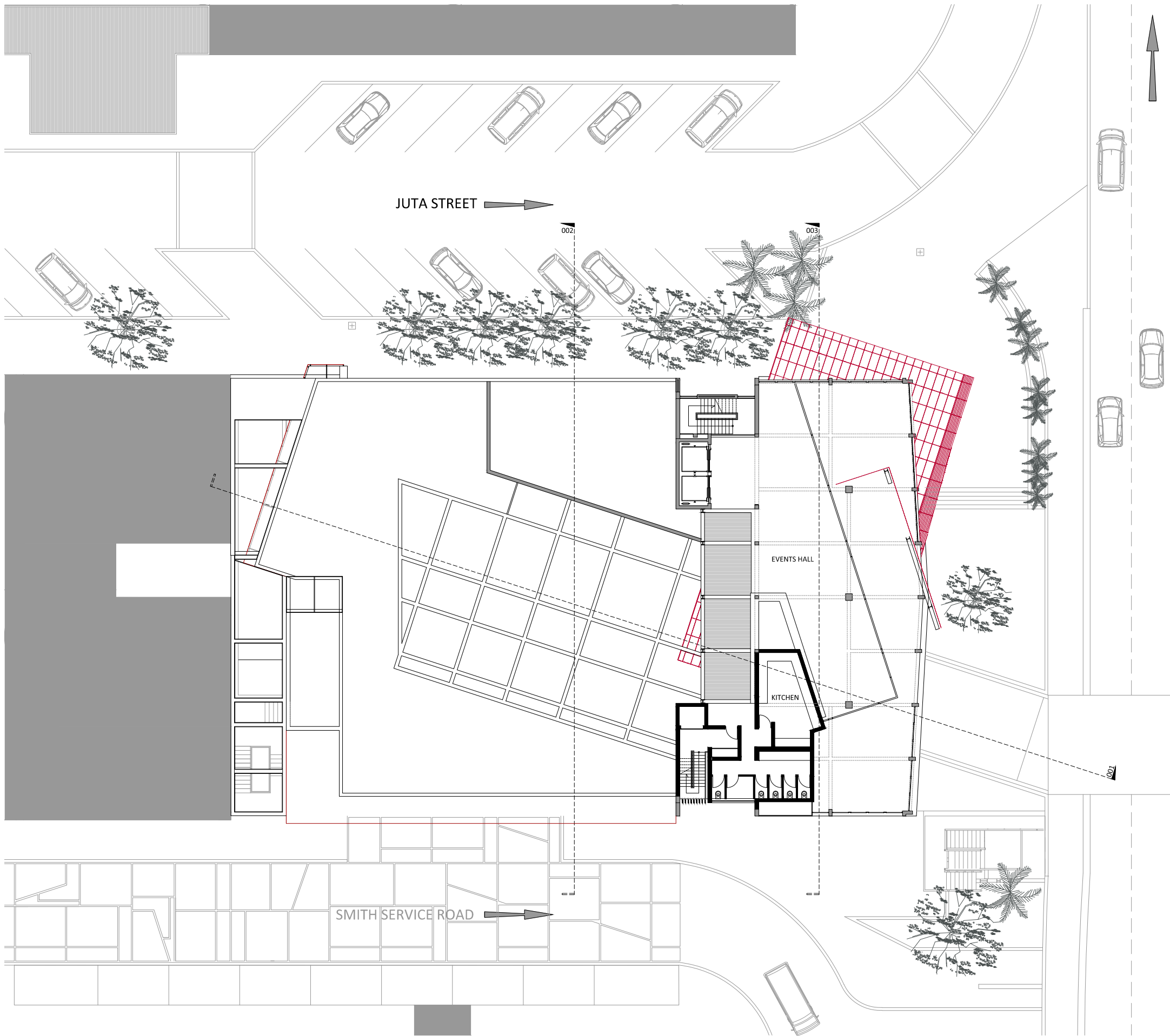


**THE NIGHTBOX & THE NELSON MANDELA BRIDGE**



**3D PLAN - SEVENTH FLOOR**





0m

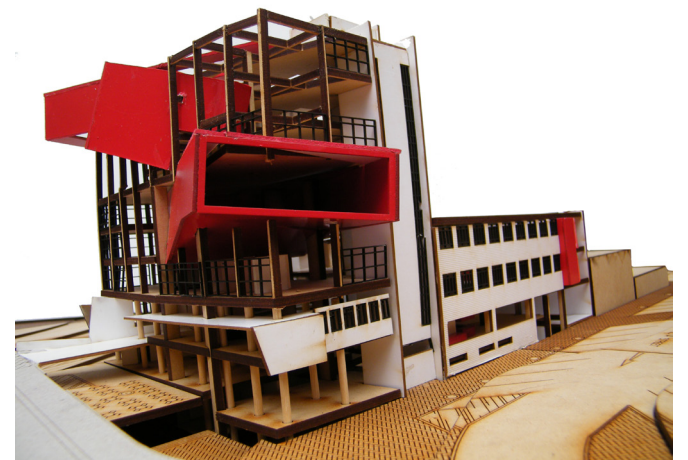
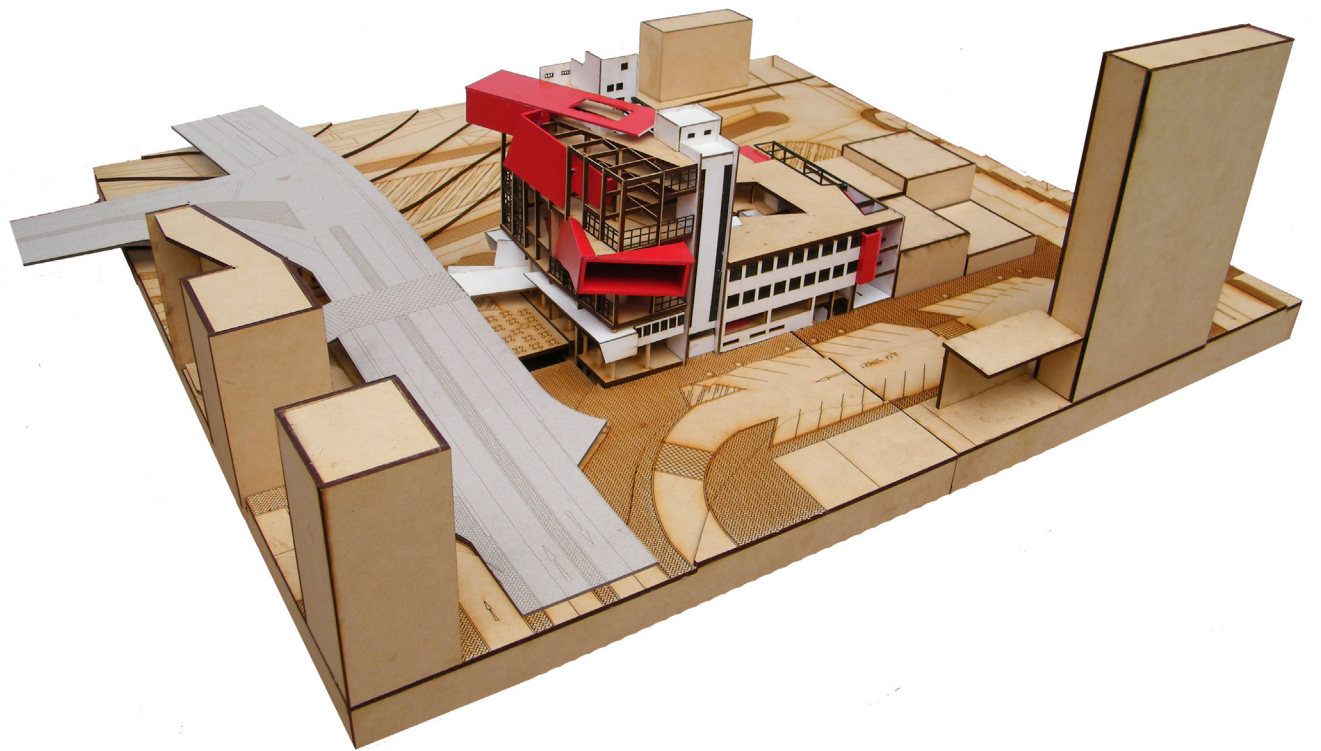
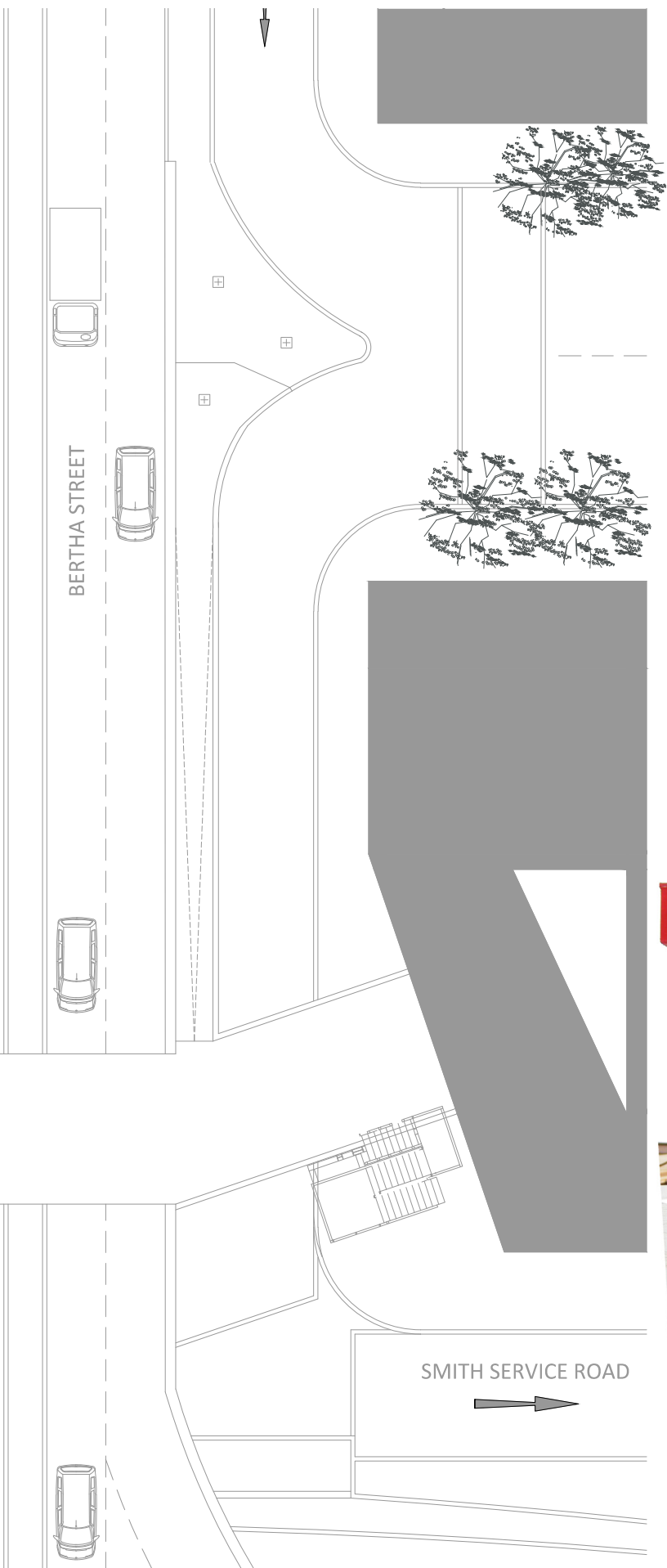
10m

20m

30m

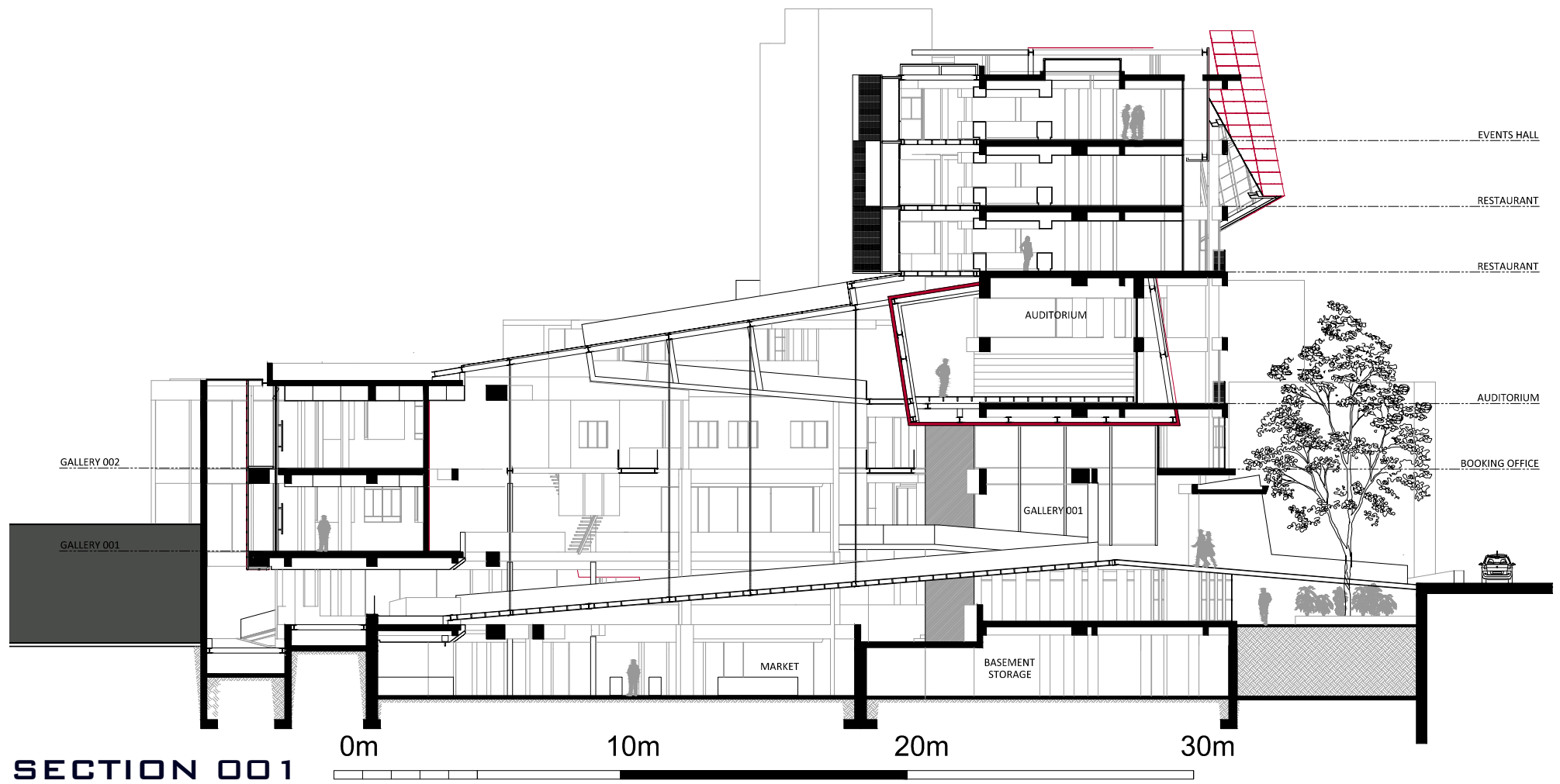
# EIGHTH FLOOR - EVENTS HALL



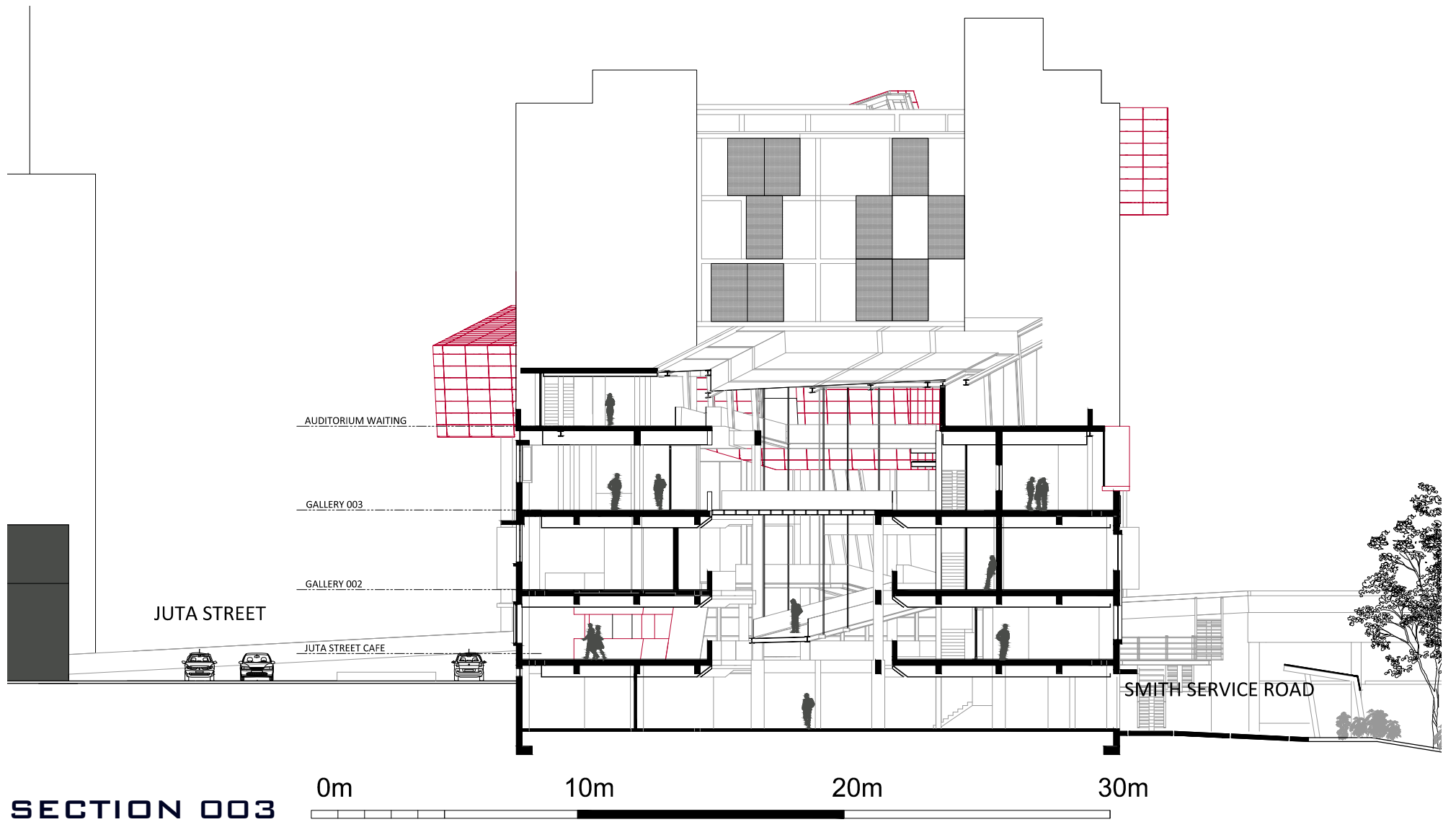


FINAL DESIGN MODEL









VIEW - RAMP UP TO THE NELSON MANDELA BRIDGE



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## BIBLIOGRAPHY

Big Media Publishers. (2003, July 2003). The Nelson Mandela Bridge. Retrieved October 10, 2011, from South Africa.Info: <http://www.southafrica.info/business/economy/infrastructure/mandelabridge.htm>

Binney, M., Powell, K., & Machin, F. (1990). Bright Future: The Re-use of Industrial Buildings. London: SAVE Britians Heritage.

Chaplin, S., & Stara, A. (2009). Curating Architecture and The City. New York: Routledge.

Diamonstein, B. (1978). Building Reborn: New Uses, Old Places. New York: Haper & Row Publishers.

Diamonstein, B. (1978). Building Reborn: New Uses, Old Places. New York: Haper & Row Publishers.

Farmer, B., & Louw, H. (1993). Companion to contemporary architectural thought. London, UK and New York, United States of America: Routledge.

Jeggle, R. (2010, Novemeber 19). Coffee shop 70 Juta. Retrieved October 10, 2011, from Rudi Jeggle: <http://www.rudijeggle.co.za/?tag=juta-street>

Kiser, K. (2008, March 10). OMA/Rem Koolhaas. Retrieved September 25, 2011, from Arcspace.com: <http://www.arcspace.com/architects/koolhaas/ne/ne.html>

Latham, D. (2000). Creative Reuse of Buildings Volume Two. United Kingdom: Donhead Publishing.

Lindsay, P., & Norman, D. A. (1977). Human Information Processing: an Introduction to psychology. New York: Academic Press Inc.  
Maas, W., & Sverdlov, A. (2009). Visionary Cities. Rotterdam: NAI Publishers.

Minnaar, W. J. (2011, Jaunary 01). About the Market. Retrieved October 10, 2011, from Neighbourgoodsmarket: <http://www.neighbourgoodsmarket.co.za/about/>

Moore, C., & Allen, G. (1925). Dimensions. New York, United States of America: Architectural Record.

Moore, C., & Allen, G. (1925). Dimensions. New York, United States of America: Architectural Record.

Newton Heritage Trail. (2010, January 01). The History of Newtown. Retrieved October 10, 2011, from Newton Heritage Trail: <http://www.newtown.co.za/heritage/history>

Newtown Heritage Trail. (2010, Jaunary 01). The Railway Sidings and The Potato Sheds. Retrieved October 10, 2011, from Newtown Heritage Trail: [http://www.newtown.co.za/heritage/view/index/the\\_railway\\_sidings\\_and\\_the\\_potato\\_sheds](http://www.newtown.co.za/heritage/view/index/the_railway_sidings_and_the_potato_sheds)

Norberg-Schulz, C. (1988). Arhitecture : Meaning and Place. United States of America: Rizzoli Interantional publications New York.

Norberg-Schulz, C. (1972). Existence, Space & Architecture. London, Great Britain: Studio Vista.

Norberg-Schulz, C. (1972). Existence, Space & Architecture. London, Great Britain: Studio Vista.

Pallasmaa, J. (2005). The eyes of the skin, Architecture and the senses. Great Britain: Wiley- Academy.

Pop, Q., Marks, R., Hall, S., & Barac, M. (2008, January 28). Werdmuller Centre. Retrieved October 5, 2011, from Blogspot: (<http://werdmullercentre.blogspot.com/>).

Rasmussen, S. E. (1959). Experiencing Architecture. Massachusetts, United States of America: The M.I.T press.

Robert, P. (1989). Adaptations: New Uses for Old Buildings. New York: Princeton Architectural Press.

Sekler, E. F. (1978). Le Corbusier at work, The genesis of the Capenter Center for the Visual Arts. London, England: Harvard University Press.

Smith, P. F. (1987). Architecture and the principles of harmony. London, Great Britain: RIBA Publications Limited.

Treib, M. (2009). Spatial Recall: Memory in Architecture and Landscape. New York: Routledge.

Treib, M. (2009). Spatial Recall: Memory in Architecture and Landscape. New York: Routledge.

Van de ven, C. (1980). Space in Architecture. Netherlands: Van Gorcum & Comp. B.V.



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IMAGE SCIENCE AND ANALYSIS LABORATORY, NASA-JOHNSON SPACE CENTER., 2003. The Gateway to Astronaut Photography of Earth. [Photograph] [ONLINE] (Cited: 2011.09.06)  
Available at: <http://eol.jsc.nasa.gov/scripts/sseop/photo.pl?mission=ISS007&roll=E&frame=10807>

### FIGURE 02

ARTHUS-BERTRAND, Y., 19--. Interchange between the 105 and 110 freeways, Los Angeles, United States. [Photograph] [ONLINE]. (Cited: 2011.09.06)  
Available at: <http://coastandchronicle.com/2011/07/26/how-to-cope-with-bad-drivers/>

### FIGURE 03

AAW! ART PROJECT MANAGEMENT, 2011- Wrapping Up Cities, Braamfontein, Johannesburg [Photograph] [ONLINE] (cited: 2011.09.06)  
Available at: <http://www.artatwork.co.za/web/experience/temporary-installations/item/118-wrapping-up-cities>

### FIGURE 04

KNIRR, W., 20--. Johannesburg, Gauteng: skyline at night from the south-west. [Photograph][ONLINE] (Cited:2011.09.06)  
Available at: [http://www.southafrica.info/pls/cms/cm\\_show\\_gallery\\_image?p\\_gid=2302&p\\_site\\_id=38&p\\_priority=5](http://www.southafrica.info/pls/cms/cm_show_gallery_image?p_gid=2302&p_site_id=38&p_priority=5)

### FIGURE 05

BROWN, K & WREN, C., 2009. Illustration Number 3 from the Boys Life Magazine Series on the science of demolition featured as a 2 page spread. [illustration][ONLINE] (Cited: 2011.08.06)  
Available at: <http://www.mondolithic.com/?p=848>  
(Image manipulation by AUTHOR)

### FIGURE 06

GAKURAN, M,2009 , Japan, Exploring The Ruins of Japan Battleship Island [Photograph] [ONLINE] (cited 2011.04.03)  
Available at: <http://laughingsquid.com/exploring-the-ruins-of-japan-battleship-island/>

### FIGURE 07

ERONEN, J., 2009. Old camera vintage isolated on a white background. [Photograph][ONLINE] (Cited: 2011.05.06)  
Available at: [http://www.123rf.com/photo\\_9849592\\_old-camera-vintage-isolated-on-a-white-background.html](http://www.123rf.com/photo_9849592_old-camera-vintage-isolated-on-a-white-background.html)

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VAIN.I 2009 Apocalyptic Cities [Digital Graphic] [ONLINE] (Cited: 2011.03.05)  
Available at: <http://romantic-ruins.blogspot.com/2009/07/post-apocalyptic-cities.html>

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REEMO TEK., 20--. 3D%20Recycle%20Logo [Digital Graphic] [ONLINE] (Cited: 2011.04.05)  
Available at: <http://www.merchantcircle.com/business/Reemo.Tek.904-354-0881/picture/view/894580>  
(Image manipulation by AUTHOR)

### FIGURE 11

GOFF, E., 2010. Batholith Etchings, [Aluminium plate mono-prints on Rives BFK] [ONLINE] (Cited: 2011.10.05)  
Available at: <http://www.ebengoff.net/index.php?/artworks/batholithetchings/>  
(Image manipulation by AUTHOR)

### FIGURE 12

UNKOWN [Sketch] [ONLINE] (Cited: 2011.09.05)  
Avaibiable at: <http://architecturedesignstudio.org/wp-content/uploads/2010/10/yona-diagram-2.jpg>

### FIGURE 13

UNKOWN, BPA Receives AIA Honor Award for Adaptive Reuse [Photograph] [ONLINE] (Cited: 2011.09.05)  
Available at: <http://bpa.typepad.com/bpa-blog/2010/07/bpa-is-pleased-to-announce-that-our-dream-center-for-church-of-the-highlands-received-the-aia-honor-award-for-adaptive-reus.html>

### FIGURE 14

By AUTHOR., 2011. INTEGRATING DEAD ARCHITECTURE BACK INTO THE ENVIRONMENT. [Diagram]. Containing: TUCKER, J., 2011. 2GAX design studio corner view. [Digital Graphic] [ONLINE] (Cited: 2011.09.05)  
Available at: [http://archpinup.net/?attachment\\_id=860](http://archpinup.net/?attachment_id=860)

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NASA., 20--. Hubble Space Telescope Image of Messier 101 Galaxy. [Photograph][ONLINE] (Cited: 2011.09.03)  
Available at: [http://www.acclaimimages.com/\\_gallery/\\_pages/0124-0906-2509-2407.html](http://www.acclaimimages.com/_gallery/_pages/0124-0906-2509-2407.html)

### FIGURE 16

VAN DORMEL, J., 2010. Mr Nobody frame no 8. [photographic still from motion picture] [ONLINE] (Cited: 2011.09.12)  
Available at: <http://www.kino-govno.com/movies/mrnobody/gallery/images/>

### FIGURE 17

UNKNOWN., 19--. Parthenon with golden ratio overlay [Photograph] ][ONLINE] (Cited: 2011.08.08)  
Available at: [http://www.uvsc.edu/disted/decourses/dgm/2740/IN/steinja/lessons/05/I05\\_05.html](http://www.uvsc.edu/disted/decourses/dgm/2740/IN/steinja/lessons/05/I05_05.html)  
(Image manipulation by AUTHOR)

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UNKNOWN., 19--. The Golden Section -Fibonacci Spiral. [Diagram] [ONLINE] (Cited: 2011.08.08)  
Available at: <http://realgraphics.wordpress.com/home/oac-the-art-of-photography/the-frame/project-13-the-golden-section/>  
(Image manipulation by AUTHOR)



#### FIGURE 19

DA VINCI, L., ca.1490. Vitruvian man. [Artists Sketch]  
[Image Sourced from: TENDO.,----. Sketching Anatomy] [ONLINE]  
(Cited:2010.07.04)  
Available at: [http://cdnimg.visualizeus.com/thumbs/d2/e9/davinci,vitruvian-d2e9637d4dab0bce6ac06d5e6dfd1ae4\\_h.jpg](http://cdnimg.visualizeus.com/thumbs/d2/e9/davinci,vitruvian-d2e9637d4dab0bce6ac06d5e6dfd1ae4_h.jpg)

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UNKNOWN., ----. The human body.  
[Digital Image] [ONLINE] (Cited: 2011.06.05) Available at: [http://4.bp.blogspot.com/-fjU5OkV3vXs/TI4C5ISRgPI/AAAAAAAAA2s/HKonORg-gG8/s1600/human\\_body.jpg](http://4.bp.blogspot.com/-fjU5OkV3vXs/TI4C5ISRgPI/AAAAAAAAA2s/HKonORg-gG8/s1600/human_body.jpg)  
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(Image manipulation by AUTHOR)

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TREDGET, R 2008 Expressing the Transpersonal: The Work of Peter Zumthor, UK  
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Available at: [http://www.presidentsmedals.com/Project\\_Details.aspx?id=1180&dop=False](http://www.presidentsmedals.com/Project_Details.aspx?id=1180&dop=False)

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[Graphic] [ONLINE] (Cited: 2011.03.25)  
UNKNOWN, 2011, The Endless Road HD Wallpaper  
Available at: <http://wallpapers-place.com/abstract/the-endless-road-hd-wallpaper/>  
Schwartz. R 2010, Teach the Controversy: Flat Earth Theory  
Available at: <http://jewmanist.com/2010/05/10/teach-the-controversy-flat-earth-theory/>  
(Image manipulation and composition by AUTHOR)

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[Sketch] [ONLINE] (Cited: 2011.03.25)  
Available at: <http://www.greatdreams.com/spinaxis.htm>

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[Diagram]. (individual images referenced above.)

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Available at: <http://www.latoro.com/10631-desktop-wallpapers-babies.htm>  
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UNKNOWN, Traveling To Egypt Pyramids Wallpaper  
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Available at: <http://www.layoutsparks.com/1/19781/traveling-to-egypt-pyramids.html>

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Unkown, 2009, World Airline Map  
[Mapping Diagram] [ONLINE] (Cited: 2011.10.26)  
Available at: <http://squidhammer.blogspot.com/2009/03/world-airline-map.html>  
(Image manipulation by AUTHOR)

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Available at: <http://publictransportsouthafrica.blogspot.com/2010/09/durban-johannesburg-high-speed-train.html>

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Available at: <http://www.telegraph.co.uk/news/sunday-telegraph-at-50/8306153/Sunday-Telegraph-at-50-what-will-the-world-be-like-in-another-50-years.html>  
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(Image manipulation by AUTHOR)

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[Graphic] [ONLINE] (Cited: 2011.09.15.26)  
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Available at: <http://es.urbarama.com/project/netherlands-embassy-berlin>

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Available at: <http://www.skyscrapercity.com/showthread.php?t=524304>  
(Image manipulation by AUTHOR)

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[Photograph / graphic] [ONLINE] (Cited: 2011.09.05)  
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Available at: <http://www.rudijeggle.co.za/?tag=juta-street>

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Available at: [http://english.aljazeera.net/photo\\_galleries/africa/201061093126613936.html](http://english.aljazeera.net/photo_galleries/africa/201061093126613936.html)

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[Photograph] [ONLINE] (Cited: 2011.10.15)  
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Available at: <http://www.flickr.com/photos/snapeeverything/sets/72157624447128107/detail/?page=5>

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Available at: <http://www.newyork-guide.net/the-modern-restaurant-new-york.html>

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Available at: [http://www.event1001.com/c/party-event-center/uae/dubai/2\\_\\_29/1703/](http://www.event1001.com/c/party-event-center/uae/dubai/2__29/1703/)

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FIGURE 83  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: [http://www.jhblive.com/live/review\\_view.jsp?review\\_id=64520](http://www.jhblive.com/live/review_view.jsp?review_id=64520)

FIGURE 84  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: <http://www.lavc.edu/arts/pastevents.html>

FIGURE 85  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: [http://seattletimes.nwsources.com/html/business/technology/2008795071\\_coffeshops01.html](http://seattletimes.nwsources.com/html/business/technology/2008795071_coffeshops01.html)

FIGURE 86  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: <http://www.toodoo.co.za/category/food>

FIGURE 87  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: [http://www.joburgnews.co.za/2006/june/jun27\\_cleancamp.stm](http://www.joburgnews.co.za/2006/june/jun27_cleancamp.stm)

FIGURE 88  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: <http://www.yousaytoo.com/newtown-cultural-hub-johannesburg/1273874>

FIGURE 89  
[Photograph] [ONLINE] (Cited: 2011.10.15)  
Available at: <http://todoinjoburg.co.za/2011/01/joburg-by-night-what-the-randlords-saw/>



FIGURE 90

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: [http://wallpapergyd.blogspot.com/2011/02/cool-mac-wallpapers\\_11.html](http://wallpapergyd.blogspot.com/2011/02/cool-mac-wallpapers_11.html)

FIGURE 91

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://ivanlandia1.blogspot.com/2011/03/secret-life-of-plantsout-of-vaults.html>

FIGURE 92

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: [http://www.bidorbuy.co.za/item/25044398/2000\\_x\\_EasyClip\\_Inland\\_Carbon\\_Steel\\_Screws.html](http://www.bidorbuy.co.za/item/25044398/2000_x_EasyClip_Inland_Carbon_Steel_Screws.html)

FIGURE 93

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://architecturalmesh.org/architecturalmesh/round-opening-perforated-metal-mesh.html>

FIGURE 94

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://www.superstock.com/stock-photos-images/1566-423094>

FIGURE 95

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://www.arcspace.com/books/Morphosis/>

FIGURE 96

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://observatory.designobserver.com/entry.html?entry=11357>

FIGURE 97

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://observatory.designobserver.com/entry.html?entry=11357>

FIGURE 98

[Photograph] [ONLINE] (Cited: 2011.10.15)

Available at: <http://www.topfreebiz.com/countrysearch/PERFORATED-METAL/1.htm>

FIGURE 99

[Photograph] [ONLINE] (Cited: 2011.10.18)

Available at: <http://www.townshiptimes.co.za/?p=3287>

FIGURE 100

[Photograph] [ONLINE] (Cited: 2011.10.18)

Available at: <http://www.immovableproperty.co.za/a,150,Broadway-in-Juta-Street-Braamfontein.htm>

FIGURE 101

[Photograph] [ONLINE] (Cited: 2011.09.15)

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